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=> s Bengtsson B?/AU
L1        2215 BENGTSSON B?/AU

=> s l1 and growth(w)hormone
L2         718 L1 AND GROWTH(W) HORMONE

=> s l2 and (multiple(w)system(w)atrophy)
L3           1 L2 AND (MULTIPLE(W) SYSTEM(W) ATROPHY)

=> s l2 and (intramusc? or subcutaneous)
L4          73 L2 AND (INTRAMUSC? OR SUBCUTANEOUS)

=> dup rem l4
PROCESSING COMPLETED FOR L4
L5           52 DUP REM L4 (21 DUPLICATES REMOVED)

=> dis ibib abs l3

L3   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER:        2005:136592  CAPLUS
DOCUMENT NUMBER:         142:191648
TITLE:                   Use of a substance that stimulates signaling of human
                         growth hormone receptor in treating
                         Parkinsonism-plus syndrome
INVENTOR(S):             Bengtsson, Bengt-Ake
PATENT ASSIGNEE(S):      Ares Trading S. A., Switz.
SOURCE:                  PCT Int. Appl., 71 pp.
                         CODEN: PIXXD2
DOCUMENT TYPE:           Patent
LANGUAGE:                English
FAMILY ACC. NUM. COUNT:  1
PATENT INFORMATION:

     PATENT NO.          KIND   DATE        APPLICATION NO.         DATE
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     WO 2005014033        A1    20050217    WO 2003-EP50348         20030729
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,
             PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT,
             TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
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         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
             FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
             BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
     CA 2532821           A1    20050217    CA 2003-2532821        20030729
     AU 2003262552        A1    20050225    AU 2003-262552         20030729
     EP 1651250           A1    20060503    EP 2003-817952         20030729
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
     BR 2003018426        A     20060801    BR 2003-18426          20030729
     CN 1838966           A     20060927    CN 2003-827096         20030729
     JP 2007515375        T     20070614    JP 2005-507528         20030729
     ZA 2006000646        A     20070627    ZA 2006-646            20030729
     NZ 544695            A     20081128    NZ 2003-544695         20030729
     MX 2006000954        A     20060504    MX 2006-954            20060124
     KR 2006079183        A     20060705    KR 2006-701726         20060125
     NO 2006001004        A     20060426    NO 2006-1004           20060228
     US 20070066519       A1    20070322    US 2006-595076         20060907
PRIORITY APPLN. INFO.:                       WO 2003-EP50348     W  20030729
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
AB   The invention relates to the use of a substance, which binds to and
     initiates signaling of the human growth hormone (hGH)
     receptor or a substance, which stimulates release or potentiates the
     activity of endogenous hGH, for treatment and/or prevention of
     Parkinsonism-Plus Syndromes.  In particular, the invention relates to the
     use of hGH for the treatment and/or prevention of Multiple
     System Atrophy.
REFERENCE COUNT:         8     THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS
                               RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT


=> dis ibib abs l5 1-52

L5   ANSWER 1 OF 52  EMBASE  COPYRIGHT (c) 2010 Elsevier B.V. All rights
     reserved on STN
ACCESSION NUMBER:   2009110441  EMBASE
TITLE:              The reduction in visceral fat mass in response to
                    growth hormone is more marked in men than
                    in oestrogen-deficient women.
AUTHOR:             Franco, Celina (correspondence); Koranyi, Josef;
                    Bengtsson, Bengt-Ake; Svensson, Johan; Johannsson,
                    Gudmundur
CORPORATE SOURCE:   Department of Endocrinology, Sahlgrenska University
                    Hospital, Grona Straket 8, SE-413 45 Goteborg, Sweden.
                    celina.franco@medic.gu.se
AUTHOR:             Brandberg, John; Lonn, Lars
CORPORATE SOURCE:   Department of Diagnostic Radiology, Sahlgrenska University
                    Hospital, SE-413 45 Goteborg, Sweden.
SOURCE:             Growth Hormone and IGF Research, (April 2009) Vol. 19, No.
                    2, pp. 112-120.
                    Refs: 35
                    ISSN: 1096-6374; E-ISSN: 1532-2238  CODEN: GHIRF9
PUBLISHER:          Churchill Livingstone, 1-3 Baxter's Place, Leith Walk,
                    Edinburgh, EH1 3AF, United Kingdom.
PUBLISHER IDENT.:   S 1096-6374(08)00102-0
COUNTRY:            United Kingdom
DOCUMENT TYPE:      Journal; Article
FILE SEGMENT:       003     Endocrinology
                    030     Clinical and Experimental Pharmacology
                    037     Drug Literature Index
                    038     Adverse Reactions Titles
LANGUAGE:           English
```

SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 20 Mar 2009
Last Updated on STN: 20 Mar 2009
AB Context: Women with severe growth hormone (GH) deficiency have a less marked response to GH replacement than men. This has mostly been attributed to the attenuating effects of oestrogen replacement therapy. Objective: To study gender related differences in the response to GH treatment in men and postmenopausal women. Methods: Fifteen men and 15 age- and BMI-matched women with abdominal obesity (mean age: 58; range 51-64 years) were treated for one year with similar doses (0.47 vs. 0.51 mg/day) of GH. All women were postmenopausal not receiving oestrogen treatment. Insulin sensitivity was assessed using a hyperinsulinemic euglycemic clamp and body composition by computed tomography (CT) scans and from total body potassium, K40. Results: Men and women were comparable at baseline in terms of waist circumference, IGF-1 and lipid levels. After one year of GH treatment, there was a 18% reduction in visceral adipose tissue (VAT) in men and a 5% reduction in women (P = 0.0001 men vs. women). Although the magnitude of the difference was small, men increased more in thigh muscle mass (P < 0.0001 vs. women). A reduction in thigh intermuscular adipose tissue (IMAT) and diastolic blood pressure was seen only in men (both p < 0.05 vs. baseline). A decrease in LDL cholesterol, and an increase in serum insulin, was observed only in women (both p < 0.05 vs. baseline). Conclusion: Low dose GH treatment reduced VAT more markedly in men as compared with women. As all women were postmenopausal and oestrogen-deficient, this gender difference in responsiveness was not due to an antagonistic effect of oestrogen on peripheral GH action.

L5 ANSWER 2 OF 52 EMBASE
ACCESSION NUMBER: 2007329710 EMBASE
TITLE: Growth hormone reduces inflammation in postmenopausal women with abdominal obesity: A 12-month, randomized, placebo-controlled trial.
AUTHOR: Franco, Celina, Dr. (correspondence); Bengtsson, Bengt-Ake; Svensson, Johan; Johannsson, Gudmundur
CORPORATE SOURCE: Department of Endocrinology, Sahlgrenska University Hospital, Grona Straket 8, SE-413 45 Goteborg, Sweden. celina.franco@medic.gu.se
AUTHOR: Andersson, Bjorn
CORPORATE SOURCE: Department of Medicine, Sahlgrenska University Hospital, SE-413 45 Goteborg, Sweden.
AUTHOR: Lonn, Lars
CORPORATE SOURCE: Department of Diagnostic Radiology, Sahlgrenska University Hospital, SE-413 45 Goteborg, Sweden.
SOURCE: Journal of Clinical Endocrinology and Metabolism, (Jul 2007) Vol. 92, No. 7, pp. 2644-2647.
Refs: 20
ISSN: 0021-972X; E-ISSN: 0021-972X CODEN: JCEMAZ
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 010 Obstetrics and Gynecology
003 Endocrinology
030 Clinical and Experimental Pharmacology
037 Drug Literature Index
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 3 Aug 2007
Last Updated on STN: 3 Aug 2007
AB Context: Abdominal obesity is associated with low GH secretion, elevated circulating markers of inflammation, and increased risk of cardiovascular

disease. Objective: The objective was to study the effect of GH treatment on inflammatory markers and vascular adhesion molecules in postmenopausal women with abdominal obesity. Design: Forty women aged 51-63 yr received GH (0.67 mg/d) in a randomized, double-blind, placebo-controlled, 12-month trial. Measurements of inflammatory markers [highly sensitive C-reactive protein (CRP), IL-6, and amyloid polypeptideA] and markers of endothelial dysfunction (soluble E-selectin, vascular adhesion molecule-1, intercellular molecule-1, and matrix metalloproteinase-9) were performed at baseline and after 6 and 12 months of treatment. Results: After 12 months, the mean IGF SD score was 0.9 ± 1.5 and -0.8 ± 0.6 in the GH and placebo groups, respectively. GH treatment reduced CRP and IL-6 levels compared with placebo ($P = 0.03$ and $P = 0.05$, respectively), whereas the markers of endothelial dysfunction were unaffected. Within the GH-treated group, a reduction was shown in CRP (4.3 ± 4 to 3.0 ± 3 mg/liter; $P < 0.05$) and in IL-6 (4.4 ± 2 to 3.3 ± 2 ng/liter; $P < 0.01$). In the GH-treated group, the decrease in CRP and IL-6 correlated with a reduction in visceral adipose tissue ($r = 0.7$, $P < 0.001$ and $r = 0.5$, $P < 0.05$, respectively). Conclusion: GH treatment in postmenopausal women with abdominal obesity reduced serum markers of systemic inflammation. Circulating markers of endothelial dysfunction were unaffected by treatment.

L5 ANSWER 3 OF 52 EMBASE

ACCESSION NUMBER: 2007284138 EMBASE

TITLE: Increased serum concentration of IGFBP-4 and IGFBP-5 in healthy adults during one month's treatment with supraphysiological doses of growth hormone.

AUTHOR: Ehrnborg, Christer (correspondence); Ohlsson, Claes; Bengtsson, Bengt-Ake; Rosen, Thord

CORPORATE SOURCE: Research Centre for Endocrinology and Metabolism (RCEM), Endocrine Division, Department of Internal Medicine, Sahlgrenska University Hospital, Grona Straket 8, SE-413 45 Goteborg, Sweden. christer.ehrnborg@medic.gu.se

AUTHOR: Mohan, Subburaman

CORPORATE SOURCE: Loma Linda University, J.L. Pettit Veterans Affairs Medical Center, Loma Linda, CA 92357, United States.

SOURCE: Growth Hormone and IGF Research, (Jun 2007) Vol. 17, No. 3, pp. 234-241.
Refs: 44
ISSN: 1096-6374; E-ISSN: 1532-2238 CODEN: GHIRF9

PUBLISHER IDENT.: S 1096-6374(07)00020-2

COUNTRY: United Kingdom

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 003 Endocrinology
030 Clinical and Experimental Pharmacology
035 Occupational Health and Industrial Medicine
037 Drug Literature Index
038 Adverse Reactions Titles

LANGUAGE: English

SUMMARY LANGUAGE: English

ENTRY DATE: Entered STN: 16 Jul 2007
Last Updated on STN: 16 Jul 2007

AB Objectives: To study the effects on insulin-like growth factor binding proteins (IGFBP)-4 and -5 after one month's treatment with supraphysiological doses of growth hormone (GH) in healthy, active young adults with a normal GH-IGF-I axis. Furthermore, the possible use of IGFBP-4 and IGFBP-5 as markers of GH doping is discussed. Design: Thirty healthy, physically active volunteers (15 men and 15 women), mean age 25.9 years (range 18-35), participated in this

randomized, double-blind, placebo-controlled, parallel study with three groups (n = 10; 5 men and 5 women in each group). The groups comprised the following: placebo, GH 0.1 IU/kg/day [0.033 mg/kg/day] and GH 0.2 IU/kg/day [0.067 mg/kg/day]. Results: Baseline levels of IGFBP-4 were higher (+20%), while IGFBP-5 levels were lower (-37%) in women than in men. IGFBP-5 levels were positively correlated to age, but no significant correlation was found for IGFBP-4. In the pooled group with active GH treatment (n = 20), both IGFBP-4 and IGFBP-5 levels were increased vs. the placebo group from day 14 until end of treatment [day 28, IGFBP-4 (+40%, p < 0.01) and IGFBP-5 (+61%, p < 0.001)]. After inclusion of serum IGF-I as a covariate in the linear regression analysis, the associations between GH treatment and the IGFBP-4 and IGFBP-5 levels were not significant. Conclusions: This study shows that the levels of IGFBP-4 and IGFBP-5 are affected by supraphysiological GH treatment given to young, healthy, physically active adults of both genders. The present study, including relatively few subjects, does not support that IGFBP-4 and IGFBP-5 can be used as IGF-I independent markers in a forthcoming method for detecting GH doping, although, further studies are needed to investigate the potential use of IGFBP-4 and IGFBP-5 as markers of GH doping.

L5 ANSWER 4 OF 52 EMBASE

ACCESSION NUMBER: 2007284137 EMBASE
TITLE: Detection of growth hormone abuse in sport.
AUTHOR: Powrie, J.K. (correspondence); Sonksen, P.H.
CORPORATE SOURCE: Department of Diabetes and Endocrinology, Guy's and St Thomas' NHS Foundation Trust, Guy's Hospital, Thomas Guy house, London SE1 9RT, United Kingdom. jake.powrie@kcl.ac.uk
AUTHOR: Bassett, E.E.
CORPORATE SOURCE: Mathematical Institute, University of Kent, Canterbury, CT2 7NF, United Kingdom.
AUTHOR: Napoli, R.; Sacca, L.
CORPORATE SOURCE: Department of Internal Medicine and Cardiovascular Sciences, University Federico II, 80131 Naples, Italy.
AUTHOR: Jorgensen, J.O.; Christiansen, J.S.
CORPORATE SOURCE: Aarhus University Hospital, DK-8000 Aarhus, Denmark.
AUTHOR: Rosen, T.; Bengtsson, B.A.
CORPORATE SOURCE: Department of Endocrinology, Sahlgrenska University Hospital, SE-413 45 Gothenburg, Sweden.
SOURCE: Growth Hormone and IGF Research, (Jun 2007) Vol. 17, No. 3, pp. 220-226.
Refs: 20
ISSN: 1096-6374; E-ISSN: 1532-2238 CODEN: GHIRF9
PUBLISHER IDENT.: S 1096-6374(07)00017-2
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 029 Clinical and Experimental Biochemistry
030 Clinical and Experimental Pharmacology
035 Occupational Health and Industrial Medicine
037 Drug Literature Index
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 16 Jul 2007
Last Updated on STN: 16 Jul 2007
AB Objective: To develop a test for GH abuse in sport. Design: A double blind placebo controlled study of one month's GH administration to 102 healthy non-competing but trained subjects. Blood levels of nine markers of GH action were measured throughout the study and for 56 days after cessation of GH administration. Blood samples were also taken from 813

elite athletes both in and out of competition. Results: GH caused a significant change in the nine measured blood markers. Men were more sensitive to the effects of GH than women. IGF-I and N-terminal extension peptide of procollagen type III were selected to construct formulae which gave optimal discrimination between the GH and placebo groups. Adjustments were made to account for the fall in IGF-I and P-III-P with age and the altered distribution seen in elite athletes. Using a cut-off specificity of 1:10,000 these formulae would allow the detection of up to 86% of men and 60% of women abusing GH at the doses used in this study. Conclusions: We report a methodology that will allow the detection of GH abuse. This will provide the basis of a robust and enforceable test identifying those who are already cheating and provide a deterrent to those who may be tempted to do so.

L5 ANSWER 5 OF 52 EMBASE DUPLICATE 1

ACCESSION NUMBER: 2006084642 EMBASE

TITLE: GH effect on enzyme activity of 11βHSD in abdominal obesity is dependent on treatment duration.

AUTHOR: Axelson, Magnus

CORPORATE SOURCE: Department of Clinical Chemistry, Karolinska Hospital, Stockholm, Sweden.

AUTHOR: Sigurjonsdottir, Helga A. (correspondence); Koranyi, Josef; Bengtsson, Bengt-Ake; Johannsson, Gudmundur

CORPORATE SOURCE: Research Centre for Endocrinology and Metabolism, Sahlgrenska University Hospital, 41345 Gothenburg, Sweden. helga.sigurjonsdottir@medic.gu.se

SOURCE: European Journal of Endocrinology, (Jan 2006) Vol. 154, No. 1, pp. 69-74.
Refs: 33
ISSN: 0804-4643 CODEN: EJOEEP

COUNTRY: United Kingdom

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 029 Clinical and Experimental Biochemistry
003 Endocrinology
037 Drug Literature Index

LANGUAGE: English

SUMMARY LANGUAGE: English

ENTRY DATE: Entered STN: 10 Mar 2006
Last Updated on STN: 6 Sep 2007

AB Objective: In the past years the interaction of GH and 11βhydroxysteroid dehydrogenase (11βHSD) in the pathogenesis of central obesity has been suggested. Design: We studied the effects of 9 months of GH treatment on 11βHSD activity and its relationship with body composition and insulin sensitivity in 30 men with abdominal obesity, aged 48-66 years, in a randomised, double-blind, placebo-controlled trial. Methods: Urinary steroid profile was used to estimate 11βHSD type 1 and 2 (11βHSD1 and 11βHSD2) activities. Abdominal s.c. and visceral adipose tissues were measured using computed tomography. Glucose disposal rate (GDR) obtained during a euglycaemic-hyperinsulinaemic glucose clamp was used to assess insulin sensitivity. Results: In the GH-treated group the 11βHSD1 activity decreased transiently after 6 weeks ($P < 0.01$) whereas 11βHSD2 increased after 9 months of treatment ($P < 0.05$). Between 6 weeks and 9 months, GDR increased and visceral fat mass decreased. Changes in 11βHSD1 correlated with changes in visceral fat mass between baseline and 6 weeks. There were no significant correlations between 11βHSD1 and 11βHSD 2 and changes in GDR. Discussion: The study demonstrates that short- and long-term GH treatment has different effects on 11βHSD1 and 11βHSD2 activity. Moreover, the data do not support that long-term metabolic effects of GH are mediated through its action on 11βHSD.

.COPYRGT. 2006 Society of the European Journal of Endocrinology.

L5 ANSWER 6 OF 52 EMBASE COPYRIGHT (c) 2010 Elsevier B.V. All rights reserved on STN

ACCESSION NUMBER: 2005168813 EMBASE
TITLE: Supraphysiological growth hormone: Less fat, more extracellular fluid but uncertain effects on muscles in healthy, active young adults.
AUTHOR: Ehrnborg, Christer (correspondence); Bengtsson, Bengt-Ake; Rosen, Thord
CORPORATE SOURCE: Res. Ctr. for Endocrinol. and Metab., Department of Internal Medicine, Sahlgrenska University Hospital, Grona straket 8, S-413 45 Goteborg, Sweden. christer.ehrnborg@medic.gu.se
AUTHOR: Ellegard, Lars; Bosaeus, Ingvar
CORPORATE SOURCE: Department of Clinical Nutrition, Sahlgrenska University Hospital, Goteborg, Sweden.
SOURCE: Clinical Endocrinology, (Apr 2005) Vol. 62, No. 4, pp. 449-457.
Refs: 40
ISSN: 0300-0664 CODEN: CLENAO
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 003 Endocrinology
037 Drug Literature Index
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 5 May 2005
Last Updated on STN: 6 Sep 2007

AB Objectives: To study the effects on body composition after 1 month's administration of supraphysiological doses of growth hormone (GH) in healthy, active young adults with normal GH-IGF-I axis. Subjects and methods: Thirty healthy, physically active volunteers (15 men and 15 women), mean age 25-9 years (range 18-35), participated in this study, designed as a randomized, double-blind, placebo-controlled, parallel study with three groups (n = 10: five men and five women in each group). The groups comprised the following: placebo (P), GH 0.1 IU/kg/day [0.033 mg/kg/day] (GH 0.1) and GH 0.2 IU/kg/day [0.067 mg/kg/day] (GH 0.2). Results: In the pooled group with active GH treatment (n = 20) the results showed significant increases: IGF-I increased by 134% (baseline vs. after 1 month), body weight by 2.7%, fat free mass by 5.3%, total body water by 6.5% and extracellular water (ECW) by 9.6%. Body fat decreased significantly by 6.6%. No significant change in intracellular water was detected. The observed increase in fat free mass by 5.3% was explained by the ECW increase, indicating limited anabolic effects of the supraphysiological GH doses. Changes were noticeable in both genders, although more prominent in the male subjects. Fluid retention symptoms occurred in the majority of individuals. Conclusions: This is, to our knowledge, the first placebo-controlled trial to show the effects of supraphysiological GH doses on body composition and IGF-I levels in physically active and healthy individuals of both genders; the results indicate limited anabolic effects of GH with these supraphysiological doses. The role of GH as an effective anabolic doping agent is questioned. .COPYRGT. 2005 Blackwell Publishing Ltd.

L5 ANSWER 7 OF 52 EMBASE COPYRIGHT (c) 2010 Elsevier B.V. All rights reserved on STN

ACCESSION NUMBER: 2004019081 EMBASE
TITLE: Effects of GH and insulin-like growth factor-I on body composition.
AUTHOR: Svensson, Johan, Dr. (correspondence); Johannsson, G.; Bengtsson, B.A.

CORPORATE SOURCE: Res. Ctr. for Endocrinol. and Metab., Sahlgrenska University Hospital, Grona Straket 8, SE-413, 45 Goteborg, Sweden. Johan.Svensson@medic.gu.se
AUTHOR: Lonn, L.
CORPORATE SOURCE: Department of Radiology, Sahlgrenska University Hospital, Grona Straket 8, SE-413, 45 Goteborg, Sweden.
SOURCE: Journal of Endocrinological Investigation, (Sep 2003) Vol. 26, No. 9, pp. 823-831.
Refs: 83
ISSN: 0391-4097 CODEN: JEIND7
COUNTRY: Italy
DOCUMENT TYPE: Journal; General Review; (Review)
FILE SEGMENT: 029 Clinical and Experimental Biochemistry
003 Endocrinology
030 Clinical and Experimental Pharmacology
037 Drug Literature Index
038 Adverse Reactions Titles
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 22 Jan 2004
Last Updated on STN: 22 Jan 2004
AB In this review, different methods to estimate body composition are discussed shortly. The effects by GH on total and visceral fat mass, lean mass, muscle strength and body water are described. Gender differences in the sensitivity to GH administration are reviewed. Finally, a short description of the effects of insulin-like growth factor-I (IGF-I) administration on body composition has been included. .COPYRGT.2003, Editrice Kurtis.

L5 ANSWER 8 OF 52 MEDLINE on STN DUPLICATE 2
ACCESSION NUMBER: 2003107047 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12619921
TITLE: Growth hormone increases bone mineral content in postmenopausal osteoporosis: a randomized placebo-controlled trial.
AUTHOR: Landin-Wilhelmsen Kerstin; Nilsson Anders; Bosaeus Ingvar; Bengtsson Bengt-Ake
CORPORATE SOURCE: Endocrine Division, Department of Medicine, Sahlgrenska University Hospital, Goteborg, Sweden.. kerstin.landin@sahlgrenska.se
SOURCE: Journal of bone and mineral research : the official journal of the American Society for Bone and Mineral Research, (2003 Mar) Vol. 18, No. 3, pp. 393-405.
Journal code: 8610640. ISSN: 0884-0431. L-ISSN: 0884-0431.
PUB. COUNTRY: United States
DOCUMENT TYPE: (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200310
ENTRY DATE: Entered STN: 7 Mar 2003
Last Updated on STN: 15 Oct 2003
Entered Medline: 14 Oct 2003
AB Eighty osteoporotic, postmenopausal women, 50-70 years of age, with ongoing estrogen therapy (HRT), were randomized to recombinant human growth hormone (GH), 1.0 U or 2.5 U/day, subcutaneous, versus placebo. This study was double-blinded and lasted for 18 months. The placebo group then stopped the injections, but both GH groups continued for a total of 3 years with GH and followed for 5 years. Calcium (750 mg) and vitamin D (400 U) were given to all patients.

Bone mineral density and bone mineral content were measured with DXA. At 18 months, when the double-blind phase was terminated, total body bone mineral content was highest in the GH 2.5 U group (p = 0.04 vs. placebo). At 3 years, when GH was discontinued, total body and femoral neck bone mineral content had increased in both GH-treated groups (NS between groups). At 4-year follow-up, total body and lumbar spine bone mineral content increased 5% and 14%, respectively, for GH 2.5 U (p = 0.01 and p = 0.0006 vs. placebo). Femoral neck bone mineral density increased 5% and bone mineral content 13% for GH 2.5 U (p = 0.01 vs. GH 1.0 U). At 5-year follow-up, no differences in bone mineral density or bone mineral content were seen between groups. Bone markers showed increased turnover. Three fractures occurred in the GH 1.0 U group. No subjects dropped out. Side effects were rare. In conclusion, bone mineral content increased to 14% with GH treatment on top of HRT and calcium/vitamin D in postmenopausal women with osteoporosis. There seems to be a delayed, extended, and dose-dependent effect of GH on bone. Thus, GH could be used as an anabolic agent in osteoporosis.

L5 ANSWER 9 OF 52 MEDLINE on STN DUPLICATE 3
ACCESSION NUMBER: 2003545997 MEDLINE
DOCUMENT NUMBER: PubMed ID: 14624763
TITLE: Growth hormone (GH) replacement in GH-deficient adults: a crossover trial comparing the effect on metabolic control, well-being and compliance of three injections per week versus daily injections.
AUTHOR: Johansson Jan-Ove; Wiren Lena; Oscarsson Jan; Bengtsson Bengt-Ake; Johannsson Gudmundur
CORPORATE SOURCE: Division of Endocrinology, Research Centre for Endocrinology and Metabolism, Sahlgrenska University Hospital, Goteborg University, SE-413 45 Goteborg, Sweden.. jan-ove.johansson@medic.gu.se
SOURCE: Growth hormone & IGF research : official journal of the Growth Hormone Research Society and the International IGF Research Society, (2003 Dec) Vol. 13, No. 6, pp. 306-15. Journal code: 9814320. ISSN: 1096-6374. L-ISSN: 1096-6374.
PUB. COUNTRY: Scotland: United Kingdom
DOCUMENT TYPE: (CLINICAL TRIAL)
(COMPARATIVE STUDY)
(CONTROLLED CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200407
ENTRY DATE: Entered STN: 20 Nov 2003
Last Updated on STN: 21 Jul 2004
Entered Medline: 20 Jul 2004
AB Growth hormone (GH) replacement therapy regimens in adults using daily subcutaneous (sc) injections may not be optimal with respect to carbohydrate and lipid metabolism. The aim of this study was to compare the efficacy of three times weekly injections with daily sc GH injections in terms of serum IGF-I, IGFBPs, lipoprotein levels, serum bone markers, glucose metabolism, body composition, compliance and well-being. Twenty hypopituitary men, 46-76 years, on a course of stable conventional GH replacement therapy for more than 12 months, were included in a 16-week crossover trial. During the first 8 weeks GH was administered three times per week followed by 8 weeks with daily sc injections with the same weekly dose of GH. Fasting serum samples were collected at baseline and on two consecutive days at the end of each 8-week period. Serum IGF-I and IGFBP-3 concentrations were lower both the first and second morning after the last injection during the period with three injections per week. The second morning after the last

GH injection in this period the IGF-I/BP-3 ratio, plasma insulin and FFA were lower whereas IGFBP-1 was increased as compared with values obtained during the period with daily injections. Serum Lp(a) levels, body composition, fat distribution, well-being and compliance were not differently affected by the two treatment regimens. These results suggest that the same weekly dose of GH given as three injections per week reduces serum IGF-I and IGFBP-3 levels without affecting Lp(a) levels. The day-to-day variation in glucose metabolism and FFA serum levels differs considerably between the two modes of GH administration.

L5 ANSWER 10 OF 52 EMBASE

ACCESSION NUMBER: 2002206545 EMBASE
TITLE: Supraphysiological doses of GH induce rapid changes in cardiac morphology and function.
AUTHOR: Cittadini, Antonio; Berggren, Annika; Longobardi, Salvatore; Ehrnborg, Christer; Napoli, Raffaele; Rosen, Thord; Fazio, Serafino; Caidahl, Kenneth; Bengtsson, Bengt-Ake; Sacca, Luigi, Dr. (correspondence)
CORPORATE SOURCE: Department of Internal Medicine, Via Sergio Pansini 5, 80131 Naples, Italy. sacca@unina.it
SOURCE: Journal of Clinical Endocrinology and Metabolism, (2002) Vol. 87, No. 4, pp. 1654-1659.
Refs: 35
ISSN: 0021-972X CODEN: JCEMAZ
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 003 Endocrinology
037 Drug Literature Index
038 Adverse Reactions Titles
006 Internal Medicine
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 27 Jun 2002
Last Updated on STN: 27 Jun 2002
AB GH is an agent widely used in sport to improve physical performance and has been proposed as adjunctive therapy in several clinical conditions. However, its short-term effects on the normal human heart are poorly understood. Sixty young normal volunteers (30 males and 30 females) were enrolled in a multicenter, double-blind, placebo-controlled study. All subjects were randomized to receive GH (0.03 or 0.06 mg/kg.ovrhdot.d) or placebo. A complete Doppler-echocardiographic examination was performed at baseline and after 4 wk of treatment. Low-dose GH did not significantly affect echocardiographic parameters. In contrast, high-dose GH increased left ventricular mass index by 12% ($P < 0.05$). The type of growth response was concentric, because left ventricular wall thickness but not diameter increased, leading to a 10% increase of relative wall thickness. These structural changes were associated with functional changes, including a significant increase in cardiac index and a decrease in peripheral vascular resistance; diastolic function was not altered. Fractional shortening and systemic blood pressure were unchanged in the two treatment groups. In conclusion, administration of GH for 4 wk at doses that simulate GH abuse in sport caused a high cardiac output state associated with concentric left ventricular remodeling.

L5 ANSWER 11 OF 52 EMBASE

ACCESSION NUMBER: 2003223382 EMBASE
TITLE: Current status and future opportunities for controlling acromegaly.
AUTHOR: Melmed, Shlomo, Dr. (correspondence)
CORPORATE SOURCE: Ceder-Sinai Medical Center, Division of

Endocrinology/Metabolism, 8700 Beverly Road, Los Angeles, CA 90048, United States. shlomo.melmed@cshs.org
AUTHOR: Vance, Mary Lee
CORPORATE SOURCE: University of Virginia, Charlottesville, VA, United States.
AUTHOR: Barkan, Ariel L.
CORPORATE SOURCE: University of Michigan, Ann Arbor, MI, United States.
AUTHOR: Bengtsson, Bengt-Ake
CORPORATE SOURCE: Res. Ctr. for Endocrinol./Metabolism, Sahlgrenska University Hospital, Goteborg, Sweden.
AUTHOR: Kleinberg, David
CORPORATE SOURCE: New York University Medical Center, New York, NY, United States.
AUTHOR: Klibanski, Anne
CORPORATE SOURCE: Massachusetts General Hospital, Boston, MA, United States.
AUTHOR: Trainer, Peter J.
CORPORATE SOURCE: Christie/S. Manchester Univ. Hosp., Manchester, United Kingdom.
SOURCE: Pituitary, (2002) Vol. 5, No. 3, pp. 185-196.
Refs: 155
ISSN: 1386-341X CODEN: PITUF9
COUNTRY: United States
DOCUMENT TYPE: Journal; General Review; (Review)
FILE SEGMENT: 017 Public Health, Social Medicine and Epidemiology
003 Endocrinology
030 Clinical and Experimental Pharmacology
037 Drug Literature Index
038 Adverse Reactions Titles
008 Neurology and Neurosurgery
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 19 Jun 2003
Last Updated on STN: 19 Jun 2003
AB Growth-hormone (GH) secreting adenomas, including acromegaly, account for approximately one-sixth of all pituitary adenomas and are associated with mortality rates at least twice that of the general population. The ultimate goal of therapy for acromegaly is normalization of morbidity and mortality rates achieved through removal or reduction of the tumor mass and normalization of insulin-like growth factor I (IGF-I) levels. Previously published efficacy results of current treatment modalities (surgery, conventional radiation, and medical therapy with dopamine agonists and somatostatin analogs) are often difficult to compare because of the different criteria used to define cure (some of which are now considered inadequate). For each of these modalities, pooled data from a series of acromegaly studies were reviewed for rates of IGF-I normalization, a currently accepted definition of cure. The results showed overall cure rates of approximately 10% for bromocriptine, 34% for cabergoline, 36% for conventional radiation, 50-90% for surgery for microadenomas and less than 50% for macroadenomas, and 54-66% for octreotide. These cure rates based on IGF-I normalization are generally less than those reported for cure based solely on GH levels. Novel new therapies for acromegaly include the somatostatin analog, lanreotide, Gamma Knife radiosurgery, and pegvisomant, the first in its class of new GH receptor antagonists. Although it does not appear that Gamma Knife radiosurgery results in significantly higher cure rates or fewer complications, it does provide a notable improvement in delivery compared with conventional radiation. Early studies have reported IGF-I normalization in 48% of lanreotide-treated patients and up to 97% of pegvisomant-treated.

L5 ANSWER 12 OF 52 BIOSIS COPYRIGHT (c) 2010 The Thomson Corporation on STN
ACCESSION NUMBER: 2002:495526 BIOSIS

DOCUMENT NUMBER: PREV200200495526
TITLE: Visceral and subcutaneous intermuscular adipose tissue as well as fatty liver infiltration decrease after GH treatment.
AUTHOR(S): Lonn, L. [Reprint author]; Brandberg, J. [Reprint author]; Koranyi, J. [Reprint author]; Bengtsson, B. A. [Reprint author]; Johannsson, G. [Reprint author]; Sjostrom, L. [Reprint author]
CORPORATE SOURCE: Departments of Radiology and Internal Medicine, Sahlgrenska University Hospital, SE 41345, Goteborg, Sweden
SOURCE: International Journal of Obesity, (August, 2002) Vol. 26, No. Supplement 1, pp. S26. print.
Meeting Info.: Ninth International Congress on Obesity. Sao Paulo, Brazil. August 24-29, 2002.
CODEN: IJOBDP. ISSN: 0307-0565.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 18 Sep 2002
Last Updated on STN: 18 Sep 2002

L5 ANSWER 13 OF 52 EMBASE
ACCESSION NUMBER: 2001427562 EMBASE
TITLE: Growth hormone alone or combined with metoprolol preserves cardiac function after myocardial infarction in rats.
AUTHOR: Bollano, E.; Bergh, C.-H.; Kjeollstrom, C.; Omerovic, E.; Kujacic, V.; Caidahl, K.; Bengtsson B.-A; Waagstein, F.; Isgaard, J. (correspondence)
CORPORATE SOURCE: Department of Internal Medicine, Res. Ctr. for Endocrinol. and Metab., Sahlgrenska University Hospital, Grona Straket 8, SE-41345 Goteborg, Sweden. entela.bollano@wlab.wall.gu.se
SOURCE: European Journal of Heart Failure, (2001) Vol. 3, No. 6, pp. 651-660.
Refs: 36
ISSN: 1388-9842 CODEN: EJHFFS
PUBLISHER IDENT.: S 1388-9842(01)00180-5
COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 018 Cardiovascular Diseases and Cardiovascular Surgery
037 Drug Literature Index
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 28 Dec 2001
Last Updated on STN: 28 Dec 2001
AB Background and objective: Beta-adrenoreceptor blocking agents are important for the treatment of myocardial infarction (MI). Accumulating evidence also indicates that growth hormone (GH) improves cardiac function after MI in rats. We aimed to investigate the cardiovascular effects of combined treatment in an animal model of MI. Methods: MI was induced in rats by ligation of the left coronary artery. Three days after MI, animals were randomly assigned to one of four groups: controls (C) (n = 19); GH (n = 19) receiving s.c. 2 mg/kg per day rhGH; metoprolol (M) group (n = 19) receiving 24 mg/kg per day and combined group (GHM) (n = 20) treated with both GH (2 mg/kg per day s.c.) and M (24 mg/kg per day) for 9 days. Transthoracic echocardiography was performed before and after treatment. Results: Serum levels of insulin-like growth factor I were significantly elevated in the GH-group but not in the GHM group compared to controls. Left ventricular volumes, cardiac index, systolic blood pressure, were similar in all groups. Percent changes in

ejection fraction compared to baseline were; GH (6.1±5.0%) and GHM (6.1.±4.2%) vs. C (-12.5±3.0%), P < 0.01, M (-7.3±4.2%). The occurrence of aneurysms was not significantly different between the various treatment regimes. Conclusion: Treatment with growth hormone alone or in combination with metoprolol preserved left ventricular function after MI. .COPYRGT. 2001 European Society of Cardiology. All rights reserved.

L5 ANSWER 14 OF 52 EMBASE

ACCESSION NUMBER: 2001411418 EMBASE

TITLE: Similar cardiovascular effects of growth hormone and insulin-like growth factor-I in rats after experimental myocardial infarction.

AUTHOR: Tivesten, A., Dr. (correspondence); Bengtsson, B.-A.; Isgaard, J.

CORPORATE SOURCE: Research Centre for Endocrinology and Metabolism, Department of Internal Medicine, Sahlgrenska University Hospital, Goteborg, Sweden. asa.tivesten@medic.gu.se

AUTHOR: Caidahl, K.; Kujacic, V.

CORPORATE SOURCE: Department of Clinical Physiology, Sahlgrenska University Hospital, Goteborg, Sweden.

AUTHOR: Sun, X.-Y.; Hedner, T.

CORPORATE SOURCE: Department of Clinical Pharmacology, Sahlgrenska University Hospital, Goteborg, Sweden.

AUTHOR: Tivesten, A., Dr. (correspondence)

CORPORATE SOURCE: Res. Centre Endocrinology/Metabolism, Sahlgrenska University Hospital, Department of Medicine, Grona Straket 8, S-413 45 Goteborg, Sweden. asa.tivesten@medic.gu.se

SOURCE: Growth Hormone and IGF Research, (2001) Vol. 11, No. 3, pp. 187-195.
Refs: 48
ISSN: 1096-6374 CODEN: GHIRF9

COUNTRY: United Kingdom

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 018 Cardiovascular Diseases and Cardiovascular Surgery
003 Endocrinology
030 Clinical and Experimental Pharmacology
037 Drug Literature Index

LANGUAGE: English

SUMMARY LANGUAGE: English

ENTRY DATE: Entered STN: 6 Dec 2001
Last Updated on STN: 6 Dec 2001

AB Accumulating data show that growth hormone (GH) and insulin-like growth factor-I (IGF-I) have major effects on the cardiovascular system. In the present study we have directly compared GH and IGF-I in an in vivo rat model of experimental myocardial infarction. Four weeks after ligation of the left coronary artery, male rats were treated with recombinant human (rh) GH 1.1 mg/kg per day, rhIGF-I 3.0 mg/kg per day or saline s.c. for 2 weeks. Transthoracic echocardiography was performed before and after the treatment period. Both GH and IGF-I reduced total peripheral resistance (P < 0.01), end-systolic wall stress (P < 0.01) and end-systolic short-axis area (P < 0.001 and P < 0.05). GH also increased area fractional shortening (P < 0.05). Stroke volume (SV) and SV index were improved by IGF-I (P < 0.0001), and SV tended to be increased by GH (P = 0.12). In conclusion, GH and IGF-I had similar beneficial effects on systolic function and peripheral resistance after experimental myocardial infarction.

L5 ANSWER 15 OF 52 EMBASE

ACCESSION NUMBER: 2001025725 EMBASE

TITLE: The effect of four weeks of supraphysiological growth hormone administration on the insulin-like growth factor axis women and men.
AUTHOR: Dall, R., Dr. (correspondence); Longobardi, S.; Ehrnborg, C.; Keay, N.; Rosen, T.; Jorgensen, J.O.L.; Cuneo, R.C.; Boroujerdi, M.A.; Cittadini, A.; Napoli, R.; Christiansen, J.S.; Bengtsson, B.A.; Sacca, L.; Baxter, R.C.; Basset, E.E.; Sonksen, P.H.
CORPORATE SOURCE: Aarhus Kommunehospital, Dept. of Med. M (Endocrinol./Diab.), Aarhus University Hospital, DK-8000 Aarhus, Denmark. rd@dadlnet.dk
SOURCE: Journal of Clinical Endocrinology and Metabolism, (2000) Vol. 85, No. 11, pp. 4193-4200.
Refs: 28
ISSN: 0021-972X CODEN: JCEMAZ
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 003 Endocrinology
030 Clinical and Experimental Pharmacology
037 Drug Literature Index
005 General Pathology and Pathological Anatomy
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 8 Feb 2001
Last Updated on STN: 8 Feb 2001

AB Measurements of serum insulin-like growth factor I (IGF-I) and related markers are routinely used in the diagnosis and treatment of GH deficiency and excess. The validity of these markers for assessment of exogenous GH exposure in healthy adults is, however, unknown. We therefore conducted a double blind, placebo-controlled GH treatment trial in 99 healthy subjects [49 women and 50 men; mean ± SE age, 25.6 ± 0.6 (women)/25.7 ± 0.6 yr (men)]. Blood was collected weekly during a 4-week treatment period (days 1-28), and the subjects were subsequently followed for additional 8 weeks (days 29-84). The treatment arms included: I) 0.1 IU/kg.ovrhdot.day GH (n = 30; GH 0.1), II) 0.2 IU/kg.ovrhdot.day GH (n = 29; GH 0.2), and III) placebo (n = 40). At baseline no gender-specific differences existed, except that the acid labile subunit (ALS) levels were higher in females. Serum insulin-like growth factor I (IGF-I) levels in males receiving GH increased significantly through day 42 with no significant difference between the 2 doses. The absolute IGF-I response was significantly lower in females, and there was a clear dose-response relationship. ALS levels in males increased through day 30 ($P < 0.001$). In females ALS levels were only modestly increased on day 28 compared with those in the placebo group ($P < 0.02$). IGF-binding protein-3 (IGFBP-3) levels in males increased significantly in the GH 0.1 and the GH 0.2 groups on day 30 ($P < 0.03$), whereas no solid IGFBP-3 increase was detected in females. IGFBP-2 levels decreased insignificantly during GH exposure in both genders. A gender-specific upper normal range for each analyte was arbitrarily defined as 4 SD above the mean level at baseline. On the basis of IGF-I levels alone, GH exposure in the GH 0.2 group was detected in 86% of the males and in 50% of the females on day 21. On day 42 GH exposure was only weakly detectable in males and was not detectable in females. We conclude that 1) males are significantly more responsive than females to exogenous GH; 2) the increase in IGF-I is more robust compared with those in IGFBP-3 and ALS; 3) IGFBP-2 changes very little during GH treatment; and 4) among IGF-related substances, IGF-I is the most specific marker of supraphysiological GH exposure.

L5 ANSWER 16 OF 52 EMBASE
ACCESSION NUMBER: 2001131025 EMBASE
TITLE: Treatment of growth hormone deficiency

in adults.
AUTHOR: Bengtsson, B.-A., Dr. (correspondence); Johannsson, G.; Shalet, S.M.; Simpson, H.; Sonken, P.H.
CORPORATE SOURCE: Res. Ctr. for Endocrinol./Metabolism, Sahlgrenska University Hospital, S-413 45 Goteborg, Sweden.
SOURCE: Journal of Clinical Endocrinology and Metabolism, (2000) Vol. 85, No. 3, pp. 933-937.
Refs: 59
ISSN: 0021-972X CODEN: JCEMAZ
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 003 Endocrinology
037 Drug Literature Index
038 Adverse Reactions Titles
006 Internal Medicine
LANGUAGE: English
ENTRY DATE: Entered STN: 17 May 2001
Last Updated on STN: 17 May 2001

L5 ANSWER 17 OF 52 EMBASE
ACCESSION NUMBER: 2000218782 EMBASE
TITLE: The GH secretagogues ipamorelin and GH-releasing peptide-6 increase bone mineral content in adult female rats.
AUTHOR: Svensson, J. (correspondence); Bengtsson, B.-A.; Ohlsson, C.; Jansson, J.-O.
CORPORATE SOURCE: Res. Ctr. for Endocrinol. and Metab., Sahlgrenska University Hospital, Goteborg, Sweden. Johan.Svensson@medic.gu.se
AUTHOR: Lall, S.; Dickson, S.L.
CORPORATE SOURCE: Department of Physiology, University of Cambridge, Cambridge, United Kingdom.
AUTHOR: Romer, J.; Ahnfelt-Ronne, I.
CORPORATE SOURCE: Health Care Discovery, Novo Nordisk A/S, Bagsvaerd, Denmark.
AUTHOR: Svensson, J. (correspondence)
CORPORATE SOURCE: Res. Ctr. for Endocrinol. and Metab., Sahlgrenska University Hospital, Grona Straket 8, SE-413 45 Goteborg, Sweden. Johan.Svensson@medic.gu.se
AUTHOR: Svensson, J. (correspondence)
CORPORATE SOURCE: Res. Ctr. for Endocr./Metabolism, Sahlgrenska University Hospital, SE-413 45 Goteborg, Sweden. Johan.Svensson@medic.gu.se
SOURCE: Journal of Endocrinology, (2000) Vol. 165, No. 3, pp. 569-577.
Refs: 38
ISSN: 0022-0795 CODEN: JOENAK
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 027 Biophysics, Bioengineering and Medical Instrumentation
003 Endocrinology
037 Drug Literature Index
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 13 Jul 2000
Last Updated on STN: 13 Jul 2000
AB Growth hormone (GH) is of importance for normal bone remodelling. A recent clinical study demonstrated that MK-677, a member of a class of GH secretagogues (GHSs), increases serum concentrations of biochemical markers of bone formation and bone resorption. The aim of the present study was to investigate whether the GHSs, ipamorelin (IPA) and

GH-releasing peptide-6 (GHRP-6), increase bone mineral content (BMC) in young adult female rats. Thirteen-week-old female Sprague-Dawley rats were given IPA (0.ovrhdot.5 mg/kg per day; n=7), GHRP-6 (0.ovrhdot.5 mg/kg per day; n=8), GH (3.ovrhdot.5 mg/kgper day; n=7), or vehicle administered continuously s.c. via osmotic minipumps for 12 weeks. The animals were followed in vivo by dual X-ray absorptiometry (DXA) measurements every 4th week. After the animals were killed, femurs were analysed in vitro by mid-diaphyseal peripheral quantitative computed tomography (pQCT) scans. After this, excised femurs and vertebrae L6 were analysed by the use of Archimedes' principle and by determinations of ash weights. All treatments increased body weight and total tibial and vertebral BMC measured by DXA in vivo compared with vehicle-treated controls. However, total BMC corrected for the increase in body weight (total BMC:body weight ratio) was unaffected. Tibial area bone mineral density (BMD, BMC/area) was increased, but total and vertebral area BMDs were unchanged. The pQCT measurements in vitro revealed that the increase in the cortical BMC was due to an increased cross-sectional bone area, whereas the cortical volumetric BMD was unchanged. Femur and vertebra L6 volumes were increased but no effect was seen on the volumetric BMDs as measured by Archimedes' principle. Ash weight was increased by all treatments, but the mineral concentration was unchanged. We conclude that treatment of adult female rats with the GHSs ipamorelin and GHRP-6 increases BMC as measured by DXA in vivo. The results of in vitro measurements using pQCT and Archimedes' pnnciple, in addition to ash weight determinations, show that the increases in cortical and total BMC were due to an increased growth of the bones with increased bone dimensions, whereas the volumetric BMD was unchanged.

L5 ANSWER 18 OF 52 EMBASE

ACCESSION NUMBER: 2000322805 EMBASE
TITLE: A nine-month, placebo-controlled study of the effects of growth hormone treatment on lipoproteins and LDL size in abdominally obese men.
AUTHOR: Svensson, J., Dr. (correspondence); Bengtsson, B.-A.; Johannsson, G.
CORPORATE SOURCE: Research Centre for Endocrinology and Metabolism, Sahlgrenska University Hospital, Goteborg, Sweden. Johan.Svensson@medic.gu.se
AUTHOR: Wiklund, O.
CORPORATE SOURCE: Wallenberg Laboratory, Sahlgrenska University Hospital, Goteborg, Sweden.
AUTHOR: Taskinen, M.-R.
CORPORATE SOURCE: Department of Medicine, Helsinki University Central Hospital, Helsinki, Finland.
AUTHOR: Svensson, J., Dr. (correspondence)
CORPORATE SOURCE: Res. Ctr. for Endocrinol./Metabol., Sahlgrenska University Hospital, Grona Straket 8, SE-413 45 Goteborg, Sweden. Johan.Svensson@medic.gu.se
SOURCE: Growth Hormone and IGF Research, (2000) Vol. 10, No. 3, pp. 118-126.
Refs: 54
ISSN: 1096-6374 CODEN: GHIRF9
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 003 Endocrinology
030 Clinical and Experimental Pharmacology
037 Drug Literature Index
038 Adverse Reactions Titles
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 28 Sep 2000

Last Updated on STN: 28 Sep 2000

AB Abdominal/visceral obesity is associated with blunted growth hormone (GH) secretion and an unfavourable lipoprotein pattern. In this study, the effect of GH treatment on LDL size and on serum lipoprotein concentrations was determined in abdominally obese men. Thirty men, aged 48-66 years, with a body mass index (BMI) of 25-35 kg/m2 and a waist:hip ratio of >0.95, received treatment with GH (9.5 μg/kg/day) or placebo for 9 months. Serum concentrations of total cholesterol (TC), low density lipoprotein-cholesterol (LDL-C) and apolipoprotein B (apoB) were reduced ($P<0.05$, $P<0.05$ and $P<0.001$ vs placebo, respectively). Serum lipoprotein(a) [Lp(a)] concentration increased ($P<0.05$ vs. placebo). Mean low density lipoprotein (LDL) particle diameter was marginally increased by active treatment as compared with placebo ($P=0.08$). No changes were observed in the serum concentrations of high density lipoprotein-cholesterol (HDL-C), apolipoprotein A-I (apoA-I) and apolipoprotein E (apoE). In conclusion, 9 months of GH treatment in abdominally obese men beneficially reduced serum concentrations of TC, LDL-C and apoB, and marginally increased mean LDL diameter, while serum Lp(a) increased. The ultimate effect of GH therapy on the cardiovascular risk remains, however, to be determined. (C) 2000 Harcourt Publishers Ltd.

L5 ANSWER 19 OF 52 EMBASE

ACCESSION NUMBER: 2000266166 EMBASE
TITLE: Growth hormone abuse.
AUTHOR: Ehrnborg, Christer, Dr. (correspondence); Bengtsson, Bengt-Ake; Rosen, Thord
CORPORATE SOURCE: Endocrine Division, Department of Internal Medicine, Sahlgrenska University Hospital, Grona straket 8, S-413 45, Goteborg, Sweden.
SOURCE: Bailliere's Best Practice and Research in Clinical Endocrinology and Metabolism, (Mar 2000) Vol. 14, No. 1, pp. 71-77.
Refs: 34
ISSN: 1521-690X CODEN: BBPMFY
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; General Review; (Review)
FILE SEGMENT: 017 Public Health, Social Medicine and Epidemiology
003 Endocrinology
035 Occupational Health and Industrial Medicine
037 Drug Literature Index
040 Drug Dependence, Alcohol Abuse and Alcoholism
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 17 Aug 2000
Last Updated on STN: 17 Aug 2000

AB Doping with growth hormone (GH) has become an increasing problem in sports during the last 10 years. GH has a reputation of being fairly effective among GH users, although the effectiveness is not undisputed, and the few controlled studies that have been performed with supraphysiological GH doses to athletes have shown no significant positive effects of GH in the aspect of a doping agent. There is no method yet to discover GH doping, but current intensive research in this matter will hopefully produce a method in the years to come. This article describes the GH physiology, the clinical use of GH, the athlete's view, administration regimens and side effects.

L5 ANSWER 20 OF 52 EMBASE

ACCESSION NUMBER: 2001127400 EMBASE
TITLE: The growth hormone secretagogue

hexarelin improves cardiac function in rats after experimental myocardial infarction.

AUTHOR: Tivesten, A.; Bollano, E.; Caidahl, K.; Kujacic, V.; Xiang Ying Sun; Hedner, T.; Hjalmarson, A.; Bengtsson, B.-A.; Isgaard, J., Dr. (correspondence)

CORPORATE SOURCE: Res. Ctr. for Endocrinol./Metabolism, Sahlgrenska University Hospital, Grona Straket 8, S-413 45 Goteborg, Sweden. jorgen.isgaard@ss.gu.se

SOURCE: Endocrinology, (2000) Vol. 141, No. 1, pp. 60-66.
Refs: 57
ISSN: 0013-7227 CODEN: ENDOAO

COUNTRY: United States

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 018 Cardiovascular Diseases and Cardiovascular Surgery
003 Endocrinology
037 Drug Literature Index

LANGUAGE: English

SUMMARY LANGUAGE: English

ENTRY DATE: Entered STN: 19 Apr 2001
Last Updated on STN: 19 Apr 2001

AB Several studies have shown that GH can enhance cardiac performance in rats after experimental myocardial infarction and in humans with congestive heart failure. In the present study, the hemodynamic effects of hexarelin (Hex), an analog of GH-releasing peptide-6 and a potent GH secretagogue, were compared with the effects of GH. Four weeks after ligation of the left coronary artery male rats were treated sc twice daily with hexarelin [10 μg/kg.ovrhdot.day (Hex10) or 100 μg/kg.day (Hex100)], recombinant human GH (2.5 mg/kg.ovrhdot.day), or 0.9% NaCl for 2 weeks. Transthoracic echocardiography was performed before and after the treatment period. GH, but not Hex, increased body weight gain. GH and Hex100 decreased total peripheral resistance ($P < 0.05$) and increased stroke volume ($P < 0.05$ and $P < 0.01$, respectively) and stroke volume index ($P = 0.06$ and $P < 0.01$, respectively) vs. NaCl. Cardiac output was increased by GH and Hex100 ($P < 0.05$), and cardiac index was increased by Hex100 with a borderline significance for GH ($P = 0.06$). In conclusion, Hex improves cardiac function and decreases peripheral resistance to a similar extent as exogenous GH in rats postmyocardial infarction. The mechanisms of these effects are unclear; they could be mediated by GH or a direct effect of Hex on the cardiovascular system.

L5 ANSWER 21 OF 52 MEDLINE on STN

ACCESSION NUMBER: 1999299920 MEDLINE

DOCUMENT NUMBER: PubMed ID: 10372705

TITLE: Treatment of obese subjects with the oral growth hormone secretagogue MK-677 affects serum concentrations of several lipoproteins, but not lipoprotein(a).

AUTHOR: Svensson J; Jansson J O; Ottosson M; Johannsson G; Taskinen M R; Wiklund O; Bengtsson B A

CORPORATE SOURCE: Research Center for Endocrinology and Metabolism, Sahlgrenska University Hospital, Goteborg, Sweden.

SOURCE: The Journal of clinical endocrinology and metabolism, (1999 Jun) Vol. 84, No. 6, pp. 2028-33.
Journal code: 0375362. ISSN: 0021-972X. L-ISSN: 0021-972X.

PUB. COUNTRY: United States

DOCUMENT TYPE: (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
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LANGUAGE: English

FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals

ENTRY MONTH: 199907

ENTRY DATE: Entered STN: 15 Jul 1999
Last Updated on STN: 15 Jul 1999
Entered Medline: 2 Jul 1999

AB Obesity is associated with blunted GH secretion and an unfavorable lipoprotein pattern. The objective of this study was to investigate the effects of treatment with the oral GH secretagogue MK-677 on lipoproteins in otherwise healthy obese males. The study was randomized, double blind, and parallel. Twenty-four obese males, aged 18-50 yr, with body mass index greater than 30 kg/m2 and waist/hip ratio above 0.95 were treated with 25 mg MK-677 (n = 12) or placebo (n = 12) daily for 8 weeks. MK-677 treatment did not significantly change serum lipoprotein(a) [Lp(a)] levels. Serum apolipoprotein A-I and E (apoA-I and apoE) were increased at 2 weeks ($P < 0.001$ and $P < 0.01$ vs. placebo, respectively), but were not changed at study end. Serum total cholesterol and low density lipoprotein (LDL) cholesterol (LDL-C) levels were not significantly changed by MK-677 treatment. Serum high density lipoprotein (HDL) cholesterol (HDL-C) was increased at 2 weeks of MK-677 treatment ($P < 0.01$ vs. placebo), but not at 8 weeks. The LDL-C/HDL-C ratio was reduced after 8 weeks of MK-677 treatment ($P < 0.05$ vs. placebo). Mean LDL particle diameter was decreased at 2 weeks ($P < 0.05$ vs. placebo), but was unchanged compared with baseline values at 8 weeks (P = NS vs. placebo). The level of serum triglycerides was increased at 2 ($P < 0.05$ vs. placebo), but not at 8, weeks. Lipoprotein lipase activity in abdominal and gluteal sc adipose tissue was not affected by active treatment. In conclusion, treatment with the oral GH secretagogue MK-677 affected circulating lipoproteins. The effects on serum apoA-1, apoE, triglycerides, and mean LDL particle diameter were transient. At study end, the LDL-C/HDL-C ratio was decreased. MK-677 treatment did not significantly affect serum Lp(a) concentrations at the present dose and administration protocol.

L5 ANSWER 22 OF 52 MEDLINE on STN
ACCESSION NUMBER: 1999211848 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10196013
TITLE: Double-blind, placebo-controlled study of growth hormone treatment in elderly patients undergoing chronic hemodialysis: anabolic effect and functional improvement.
AUTHOR: Johannsson G; Bengtsson B A; Ahlmen J
CORPORATE SOURCE: Department of Nephrology, Sahlgrenska University Hospital, Goteborg, USA.. gudmundur.johannson@ss.gu.se
SOURCE: American journal of kidney diseases : the official journal of the National Kidney Foundation, (1999 Apr) Vol. 33, No. 4, pp. 709-17.
Journal code: 8110075. E-ISSN: 1523-6838. L-ISSN: 0272-6386.
PUB. COUNTRY: United States
DOCUMENT TYPE: (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199905
ENTRY DATE: Entered STN: 25 May 1999
Last Updated on STN: 21 May 2001
Entered Medline: 10 May 1999

AB Elderly patients with end-stage renal disease often have protein and/or caloric malnutrition that severely affects general well-being and mortality. Uremia is associated with resistance to the action of growth hormone (GH). This resistance could be of clinical importance in elderly dialysis patients. In the present study,

the effects of GH treatment were assessed in elderly patients receiving chronic hemodialysis. Twenty hemodialysis patients with a mean age of 71.7 years (range, 53 to 92 years) were included on a 6-month, randomized, double-blind, placebo-controlled trial of GH treatment. The dose of GH was 66.7 microgram/kg, administered subcutaneously three times weekly immediately after each dialysis session. Body composition was measured using total-body potassium levels, computed tomography of the lower leg, and bioelectrical impedance analysis. Serum albumin concentrations and handgrip strength were also measured. GH treatment increased the serum concentration of insulin-like growth factor-I (IGF-I), IGF-I/IGF-binding protein-3 ratio, fat-free mass, and the serum concentration of albumin compared with placebo. The number of patients with serum albumin levels less than 40 g/L was reduced by a factor of three in the GH-treated group. Handgrip strength increased in response to GH treatment compared with placebo. Six months of GH treatment in elderly hemodialysis patients produced anabolic effects, with improved muscle performance. Also, the number of patients with low albumin levels was markedly reduced, indicating improved nutritional status and/or attenuated catabolism. These are all important beneficial effects for individual patient outcomes.

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ACCESSION NUMBER: 1999:380264 BIOSIS
DOCUMENT NUMBER: PREV199900380264
TITLE: Growth hormone therapy with Genotropin MiniQuick(R) offers improved convenience.
AUTHOR(S): Sjoblom, K. [Reprint author]; Bengtsson, B.-A.; Bouthelier, R. Gracia; Ritzen, M.
CORPORATE SOURCE: Pharmacia and Upjohn AB, Stockholm, Sweden
SOURCE: Growth Hormone and IGF Research, (April, 1999) Vol. 9, No. SUPPL. A, pp. 143. print.
Meeting Info.: 26th International Symposium on GH and Growth Factors in Endocrinology and Metabolism. Palma de Mallorca, Spain. October 1998.
ISSN: 1096-6374.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
Conference; (Meeting Poster)
LANGUAGE: English
ENTRY DATE: Entered STN: 13 Sep 1999
Last Updated on STN: 13 Sep 1999

L5 ANSWER 24 OF 52 MEDLINE on STN DUPLICATE 4

ACCESSION NUMBER: 1999369174 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10442570
TITLE: Growth hormone and the metabolic syndrome.
AUTHOR: Johannsson G; Bengtsson B A
CORPORATE SOURCE: Research Centre for Endocrinology and Metabolism, Sahlgrenska University Hospital, Goteborg, Sweden.
SOURCE: Journal of endocrinological investigation, (1999) Vol. 22, No. 5 Suppl, pp. 41-6. Ref: 42
Journal code: 7806594. ISSN: 0391-4097. L-ISSN: 0391-4097.
PUB. COUNTRY: Italy
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199910
ENTRY DATE: Entered STN: 14 Oct 1999
Last Updated on STN: 14 Oct 1999

Entered Medline: 7 Oct 1999

AB The association of several risk factors, obesity, dyslipoproteinemia, hepatic steatosis, insulin resistance and hypertension with Type 2 (non-insulin-dependent) diabetes mellitus and myocardial infarction has long been known and has been termed the "metabolic syndrome". In 1988 Reaven introduced syndrome X as the link between insulin resistance and hypertension. It has been suggested that a critical factor in the association between obesity, Type 2 diabetes and cardiovascular morbidity is the mass of intraabdominal fat. Striking similarities exist between the metabolic syndrome and untreated growth hormone (GH) deficiency in adults. The central findings in both these syndromes are abdominal/visceral obesity and insulin resistance. Other features common to both conditions are premature atherosclerosis and increased mortality from cardiovascular diseases. These similarities indicate that undetectable and low levels of GH may be of importance in the metabolic aberrations observed in both these conditions. Recent investigations have found that abdominal/visceral distribution of adipose tissue is associated with endocrine disturbances including increased activity of the hypothalamic-pituitary-adrenal axis and a blunted secretion of GH and sex steroids. Theoretically, these endocrine perturbations can be a consequence of obesity, but the endocrine aberrations may have causal effects. We studied moderately obese, middle-aged men with a preponderance of abdominal body fat. As a group, they had slight to moderate metabolic changes known to be associated with abdominal/visceral obesity. Nine months of GH treatment reduced their total body fat and resulted in a specific and a marked decrease in both abdominal subcutaneous and visceral adipose tissue. Moreover, insulin sensitivity improved and serum concentrations of total cholesterol and triglyceride decreased. Diastolic blood pressure also decreased. The finding that GH replacement in men with abdominal obesity can diminish the negative metabolic consequences of visceral obesity suggests that low levels of this hormone are of importance for the metabolic aberrations associated with visceral/abdominal obesity.

L5 ANSWER 25 OF 52 EMBASE

ACCESSION NUMBER: 1998367355 EMBASE

TITLE: Consensus guidelines for the diagnosis and treatment of adults with growth hormone deficiency: Summary statement of the growth hormone research society workshop on adult growth hormone deficiency.

AUTHOR: Attanasio, A., Dr. (correspondence); Attie, K.; Baxter, R.; Bengtsson, B.-A.; Black, A.; Blethen, S.; Carlsson, L.; Casaneuva, F.; Chipman, J.; Christiansen, J.S.; Clemmons, D.; Cuneo, R.; De Rijdt, D.; Ghigo, E.; Hartman, M.; Hernberg-Stahl, E.; Hintz, R.; Garvan, K.H.; Hoffman, D.; Irie, M.; Jorgensen, J.O.; Kappelgaard, A.-M.; Laron, Z.; Malozowski, S.; Russel-Jones, D.; Shalet, S.; Sizonenko, P.; Sonksen, P.H.; Strasburger, C.; Takano, K.; Thorner, M.

CORPORATE SOURCE: GRS Secretariat, Medical Department M, Aarhus Kommunehospital, DK-8000 Aarhus C, Denmark.

SOURCE: Journal of Clinical Endocrinology and Metabolism, (1998) Vol. 83, No. 2, pp. 379-381.
ISSN: 0021-972X CODEN: JCEMAZ

COUNTRY: United States

DOCUMENT TYPE: Journal; Conference Article; (Conference paper)

FILE SEGMENT: 003 Endocrinology
037 Drug Literature Index
038 Adverse Reactions Titles

LANGUAGE: English

ENTRY DATE: Entered STN: 10 Dec 1998
Last Updated on STN: 10 Dec 1998

L5 ANSWER 26 OF 52 MEDLINE on STN DUPLICATE 5
ACCESSION NUMBER: 2000456516 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10987682
TITLE: High dosage growth hormone treatment and post-ischemic acute renal failure in the rat.
AUTHOR: Matejka G L; Bengtsson B A
CORPORATE SOURCE: Department of Internal Medicine, Research Centre for Endocrinology and Metabolism, University of Goteborg, Sahlgrenska Hospital, Sweden.. Goran-matejka@ss.qu.se
SOURCE: Growth hormone & IGF research : official journal of the Growth Hormone Research Society and the International IGF Research Society, (1998 Apr) Vol. 8, No. 2, pp. 151-7. Journal code: 9814320. ISSN: 1096-6374. L-ISSN: 1096-6374.
PUB. COUNTRY: SCOTLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200009
ENTRY DATE: Entered STN: 5 Oct 2000
Last Updated on STN: 5 Oct 2000
Entered Medline: 27 Sep 2000

AB The positive effect of insulin-like growth factor I (IGF-I) on the outcome of experimental acute renal failure has gained much attention in recent years. However, the potential positive effects of GH have been less intensively studied. Therefore, a study was designed in which rats suffering from post-ischemic renal failure were treated with high dosage growth hormone (GH). Forty-six rats were subjected to bilateral renal ischemia for 45 min. Following reperfusion the animals were treated with either human recombinant GH in a dosage of 2 mg/day given as subcutaneous injection or placebo. The animals were monitored daily for body weight, s-creatinine, s-urea and B-glucose. S-IGF levels were determined at the start of the experiment and at days 3 and 7. IGF-I and GH receptor mRNA were measured in the kidney and the liver of the surviving animals at the end of the experiment. Survival in the GH-treated rats was 42.9% as compared to 32.0% in the control group (not significant). Both groups of animals lost body weight in the initial phase. The loss in body weight was less pronounced for the GH-treated animals and the difference was significant at day 2 ($P<0.05$). The s-creatinine levels tended to be lower in the GH-group at all times studied, but the difference was not significant. The s-urea levels were significantly reduced by GH-treatment at day 2 ($P<0.05$). GH treatment caused no adverse effects on carbohydrate metabolism as studied by daily B-glucose determinations. The serum IGF-I levels were identical in both the groups at day zero. At day 3 the serum IGF-I levels had increased by approximately 30% in both groups. At day 7 the serum IGF-I level was 1600 ng/ml in the GH-treated group as compared to 1400 ng/ml in the placebo group (not significant). When placebo-treated uremic rats were compared to normal sham-operated animals GH-rec mRNA was down-regulated in the kidney and liver, while IGF-I mRNA was down-regulated only in the liver ($P<0.05$). GH treatment partly restored the GH-rec and IGF-I mRNA levels in both organs. The data are compatible with a severe GH resistance syndrome in acute renal failure.

L5 ANSWER 27 OF 52 EMBASE
ACCESSION NUMBER: 1997116436 EMBASE
TITLE: Diurnal variations in twenty-four-hour energy expenditure during growth hormone treatment of

adults with pituitary deficiency.
AUTHOR: Sjostrom, Lars (correspondence)
CORPORATE SOURCE: Department of Medicine, Sahlgrenska University Hospital, Vita straket 15, S-413 45 Goteborg, Sweden.
AUTHOR: Lonn, Lars
CORPORATE SOURCE: Department of Radiology, Sahlgrenska University Hospital, S-413 45 Goteborg, Sweden.
AUTHOR: Stenlof, Kaj; Johansson, Jan-Ove; Bengtsson, Bengt-Ake
CORPORATE SOURCE: Res. Ctr. for Endocrinol. and Metab., Sahlgrenska University Hospital, S-413 45 Goteborg, Sweden.
SOURCE: Journal of Clinical Endocrinology and Metabolism, (1997) Vol. 82, No. 4, pp. 1255-1260.
Refs: 27
ISSN: 0021-972X CODEN: JCEMAZ
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 003 Endocrinology
037 Drug Literature Index
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 12 May 1997
Last Updated on STN: 12 May 1997

AB The effects of growth hormone (GH) treatment on 24-h energy expenditure (EE) were studied in a open trial over a period of 4 weeks. Five subjects, four men and one woman, with a history of complete GH deficiency were included. All the subjects were examined on 2 consecutive days on baseline and, thereafter, at six occasions during a period of 1 month (days 1, 2, 5, 8, 15, and 30). The dose of GH was 0.25 U/kg.week, administered sc once a day in the evening. EE was determined in a chamber for indirect calorimetry. Body composition was determined with dual-energy x-ray absorptiometry and computed tomography using a four-scan technique. Blood samples were examined using well-established RIAs. During the first 2 weeks, 24-h EE increased by 6 ± 3% (range 1-8%) from 40.9 ± 4.8 to 42.9 ± 4.8 kcal/24 h.kg ($P < 0.05$), sleeping metabolic rate by 14 ± 3% (range 10-18%) from 28.4 ± 1.9 to 32.9 ± 2.2 kcal/24h.kg ($P < 0.001$), and basal metabolic rate by 11 ± 7% (range 0-18%) from 29.6 ± 2.4 to 33.3 ± 2.6 kcal/24h.kg ($P < 0.05$). No change was found in daytime EE. The increase in EE covaried with changes in insulin- like growth factor 1, the free T3/free T4 ratio, insulin-like growth factor- binding protein-3, and the aminoterminal procollagen III peptide but not with changes in body composition. It is suggested that the stimulating effect of GH on EE occurs gradually during a 2-week period and is only detectable during night and morning hours, when significant levels of GH occur.

L5 ANSWER 28 OF 52 EMBASE
ACCESSION NUMBER: 1997075322 EMBASE
TITLE: Growth hormone treatment of abdominally obese men reduces abdominal fat mass, improves glucose and lipoprotein metabolism, and reduces diastolic blood pressure.
AUTHOR: Johannsson, Gudmundur, Dr. (correspondence); Bengtsson, Bengt-Ake
CORPORATE SOURCE: Res. Ctr. for Endocrinol. and Metab., Sahlgrenska University Hospital, S-413 45 Goteborg, Sweden. Gudmundur.Johannsson@ss.gu.se
AUTHOR: Marin, Per; Ottosson, Malin; Bjorntorp, Per
CORPORATE SOURCE: Dept. of Heart and Lung Diseases, Sahlgrenska University Hospital, S-413 45 Goteborg, Sweden.
AUTHOR: Lonn, Lars

CORPORATE SOURCE: Department of Radiology, Sahlgrenska University Hospital, S-413 45 Goteborg, Sweden.
AUTHOR: Stenlof, Kaj; Sjostrom, Lars
CORPORATE SOURCE: Department of Medicine, Sahlgrenska University Hospital, S-413 45 Goteborg, Sweden.
AUTHOR: Johannsson, Gudmundur, Dr. (correspondence)
CORPORATE SOURCE: Res. Ctr. Endocrinology/Metabolism, Sahlgrenska University Hospital, S-413 45 Goteborg, Sweden. Gudmundur.Johannsson@ss.gu.se
SOURCE: Journal of Clinical Endocrinology and Metabolism, (1997) Vol. 82, No. 3, pp. 727-734.
Refs: 50
ISSN: 0021-972X CODEN: JCEMAZ
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 003 Endocrinology
037 Drug Literature Index
038 Adverse Reactions Titles
006 Internal Medicine
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 7 Apr 1997
Last Updated on STN: 7 Apr 1997
AB The most central findings in both GH deficiency in adults and the metabolic syndrome are abdominal/visceral obesity and insulin resistance. Abdominal obesity is associated with blunted GH secretion and low serum insulin-like growth factor-I concentrations. GH treatment in GH-deficient adults has demonstrated favorable effects on most of the features of GH deficiency in adults, but it is not known whether GH can improve some of the metabolic aberrations observed in abdominal/visceral obesity. Thirty men, 48- 66 yr old, with abdominal/visceral obesity were treated with recombinant human GH (rhGH) in a 9-month randomized, double-blind, placebo-controlled trial. The daily dose of rhGH was 9.5 μg/kg. Body fat was assessed from total body potassium, and abdominal sc and visceral adipose tissue was measured using computed tomography. The glucose disposal rate (GDR) was measured during an euglycemic, hyperinsulinemic glucose clamp. In response to the rhGH treatment, total body fat and abdominal sc and visceral adipose tissue decreased by 9.2 ± 2.4%, 6.1 ± 3.2%, and 18.1 ± 7.6%, respectively. After an initial decrease in the GDR at 6 weeks, the GDR increased in the rhGH-treated group as compared with the placebo-treated one ($P < 0.05$). The mean serum concentrations of total cholesterol ($P < 0.01$) and triglyceride ($P < 0.05$) decreased, whereas blood glucose and serum insulin concentrations were unaffected by the rhGH treatment. Furthermore, diastolic blood pressure decreased and systolic blood pressure was unchanged in response to rhGH treatment. This trial has demonstrated that GH can favorably affect some of the multiple perturbations associated with abdominal/visceral obesity. This includes a reduction in abdominal/visceral obesity, an improved insulin sensitivity, and favorable effects on lipoprotein metabolism and diastolic blood pressure.

L5 ANSWER 29 OF 52 EMBASE
ACCESSION NUMBER: 1997358901 EMBASE
TITLE: Individualized dose titration of growth hormone (GH) during GH replacement in hypopituitary adults.
AUTHOR: Johannsson, Gudmundur, Dr. (correspondence); Rosen, Thord; Bengtsson, Bengt-Ake
CORPORATE SOURCE: Res. Ctr. for Endocrinol. and Metab., Sahlgrenska University Hospital, Goteborg, Sweden. Gudmundur.Johannsson@ss.gu.se

AUTHOR: Johannsson, Gudmundur, Dr. (correspondence)
CORPORATE SOURCE: Res. Ctr. for Endocrinol. and Metab., Sahlgrenska University Hospital, S-413 45 Goteborg, Sweden. Gudmundur.Johannsson@ss.gu.se
AUTHOR: Johannsson, Gudmundur, Dr. (correspondence)
CORPORATE SOURCE: Res. Ctr. for Endocrinol./Metabolism, Sahlgrenska University Hospital, S-413 45 Goteborg, Sweden. Gudmundur.Johannsson@ss.gu.se
SOURCE: Clinical Endocrinology, (1997) Vol. 47, No. 5, pp. 571-581. Refs: 42
ISSN: 0300-0664 CODEN: CLENAO
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 003 Endocrinology
037 Drug Literature Index
038 Adverse Reactions Titles
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 15 Jan 1998
Last Updated on STN: 15 Jan 1998

AB OBJECTIVE: Until now, GH treatment in GH-deficient adults has employed dose schedules of GH based on body weight or body surface area and has ignored individual responsiveness to GH. This trial has studied the effects of an individualized GH dose adjusted to match a combination of clinical response, normalization of serum IGF-I concentration and body composition. DESIGN AND PATIENTS: Two closely-matched groups, each comprising 30 GH- deficient adults, 38 men and 22 women aged 48 years, were treated with GH for 12 months. The high dose (HD) group received a target dose of 12μg/kg per day and the individualized dose (ID) group received an initial daily GH dose of 0.ovrhdot.17 or 0-33 mg per day (0-5 and 1 IU, respectively), independent of body weight, with dose adjustments thereafter. MEASUREMENTS: Serum concentrations of IGF-I, lipoprotein(a), insulin, calcium, intact PTH, osteocalcin and blood glucose were measured. Body composition was determined according to a 4- compartment model using total body potassium and tritiated water as input variables. Total body nitrogen was measured by in vivo neutron activation and total body bone mineral content by dual energy X-ray absorptiometry. RESULTS: At 12 months, the daily dose of GH was 0.ovrhdot.55 ± 0.ovrhdot.03mg and 0.ovrhdot.45 ± 0.ovrhdot.03 mg in the HD and ID groups, respectively (P < 0.ovrhdot.05). In the HD group, the mean serum IGF-I increased to levels well above the predicted level, while in the ID group the mean serum IGF-I normalized. Side-effects were experienced by 70% of the subjects in the HD group and by 30% in the ID group (P< 0.ovrhdot.001). A similar response to GH in terms of body composition, glucose homeostasis, lipoprotein(a) and blood pressure was obtained in both treatment groups. However, the treatment response in terms of serum calcium, intact PTH and osteocalcin was more marked in the HD group. CONCLUSIONS: Similar efficacy, with a lower dose of GH and fewer side-effects, was obtained by considering individual responsiveness to GH as compared to higher doses of GH adjusted to match body weight.

L5 ANSWER 30 OF 52 EMBASE
ACCESSION NUMBER: 1997205673 EMBASE
TITLE: Growth hormone improves cardiac function in rats with experimental myocardial infarction.
AUTHOR: Isgaard, J., Dr. (correspondence); Bengtsson, B.-A.
CORPORATE SOURCE: Res. Ctr. for Endocrinol. and Metab., Sahlgrenska University Hospital, Gothenburg, Sweden.
AUTHOR: Kujacic, V.
CORPORATE SOURCE: Department of Clinical Physiology, Sahlgrenska University Hospital, Gothenburg, Sweden.

AUTHOR: Jennische, E.
CORPORATE SOURCE: Dept. of Anatomy and Cell Biology, University of Gothenburg, Gothenburg, Sweden.
AUTHOR: Holmang, A.
CORPORATE SOURCE: Wallenberg Laboratory, Sahlgrenska University Hospital, Gothenburg, Sweden.
AUTHOR: Sun, X.Y.; Hedner, T.
CORPORATE SOURCE: Department of Clinical Pharmacology, Sahlgrenska University Hospital, Gothenburg, Sweden.
AUTHOR: Hjalmarson, A.
CORPORATE SOURCE: Department of Cardiology, Sahlgrenska University Hospital, Gothenburg, Sweden.
AUTHOR: Isgaard, J., Dr. (correspondence)
CORPORATE SOURCE: Res. Ctr. for Endocrinol. and Metab., Sahlgrenska University Hospital, S-413 45 Gothenburg, Sweden.
AUTHOR: Isgaard, J., Dr. (correspondence)
CORPORATE SOURCE: Res. Ctr. for Endocrinogy/Metabolism, Sahlgrenska University Hospital, S-413 45 Gothenburg, Sweden.
SOURCE: European Journal of Clinical Investigation, (1997) Vol. 27, No. 6, pp. 517-525.
Refs: 41
ISSN: 0014-2972 CODEN: EJCIB8
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 018 Cardiovascular Diseases and Cardiovascular Surgery
003 Endocrinology
030 Clinical and Experimental Pharmacology
037 Drug Literature Index
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 23 Jul 1997
Last Updated on STN: 23 Jul 1997
AB Accumulating evidence suggests from experimental and clinical studies beneficial effects of growth hormone (GH) on contractility, although concomitant cardiac hypertrophy, generally considered to be a cardiovascular risk factor, has also been reported. In the present study, we combine a rat model with impaired cardiac performance after myocardial infarction (MI) with echocardiographic evaluation of GH effects on cardiac structure and function. We have used a rat model with ligation of the left coronary artery in normal, growing male rats resulting in subsequent impaired cardiac performance. After 6 weeks' recovery, blind transthoracic echocardiography was performed to determine infarction size, cardiac geometry and performance. Rats with no signs of myocardial infarction were excluded from the study. After randomization, the rats were treated with daily s.c. injections of saline (n = 8) or recombinant human growth hormone (rhGH) (n = 6) at a dose of approximately 1 mg kg -1 body weight for 1 week. A new blind echocardiography examination was performed after treatment demonstrating a 13% increase in ejection fraction (EF) and a 50% increase in cardiac index in GH-treated rats compared with control rats (P <0.01). Moreover, GH caused a significant decrease in end-systolic volume. There were no significant changes in left ventricular (LV) or interventricular wall thickness, LV dimensions, heart rate or diastolic function. No effects were seen on LV weight, cardiac insulin-like growth factor (IGF) I, IGF-I receptor and GH receptor mRNA content. GH in a physiological dose improves systolic function in an experimental model of heart failure without signs of hypertrophy, suggesting a potential role as a therapeutic agent in the treatment of heart failure and merits further investigation.

L5 ANSWER 31 OF 52 MEDLINE on STN DUPLICATE 6
ACCESSION NUMBER: 1997152192 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8998124

TITLE: Low-dose recombinant human growth hormone increases body weight and lean body mass in patients with short bowel syndrome.
AUTHOR: Ellegard L; Bosaeus I; Nordgren S; Bengtsson B A
CORPORATE SOURCE: Department of Clinical Nutrition, Sahlgrenska University Hospital, Gothenburg, Sweden.
SOURCE: Annals of surgery, (1997 Jan) Vol. 225, No. 1, pp. 88-96. Journal code: 0372354. ISSN: 0003-4932. L-ISSN: 0003-4932. Report No.: NLM-PMC1190610.
PUB. COUNTRY: United States
DOCUMENT TYPE: (CLINICAL TRIAL) Journal; Article; (JOURNAL ARTICLE) (RANDOMIZED CONTROLLED TRIAL)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 199702
ENTRY DATE: Entered STN: 27 Feb 1997
Last Updated on STN: 27 Feb 1997
Entered Medline: 13 Feb 1997

AB OBJECTIVE: The authors investigate the effects of low dose recombinant human growth hormone (rhGH) on body composition and absorptive capacity in patients with short bowel syndrome from Crohn's disease. SUMMARY BACKGROUND DATA: Patients with short bowel syndrome usually are malnourished because of malabsorption. The anabolic effects of high doses of rhGH have been tested in different clinical catabolic conditions, recently including patients with short bowel syndrome. The authors have investigated the effects of low-dose rhGH in short bowel syndrome in a placebo-controlled crossover clinical trial. METHODS: Ten patients were treated with daily subcutaneous doses of rhGH/placebo (0.5 international units/kg-1 per week-1 = 0.024 mg/kg-1 per day-1) for 8 weeks in a randomized, double-blind, placebo-controlled crossover clinical trial with a minimum of 12 weeks wash-out. Absorptive capacity and biochemical parameters were investigated in a metabolic ward before treatment and during first and last week of treatment. Body composition was determined by DEXA-Scan (Lunar DPX, Scanexport Medical, Helsingborg, Sweden), impedance analysis, and whole body potassium counting. RESULTS: Low-dose rhGH doubled serum levels of insulin-like growth factor-1 (IGF-1) and increased body weight, lean body mass, and total body potassium by 5% ($p < 0.05$). Fat-free mass and total body water increased by 6% ($p = 0.008$). Increases in IGF-1 levels correlated with increases in fat-free mass ($r = 0.77$, $p < 0.02$). No significant changes in absorptive capacity of water, energy, or protein were detected. CONCLUSION: Eight weeks of low-dose rhGH treatment leads to increases in body weight, lean body mass, and fat-free mass in patients with short bowel syndrome, correlated to increases in IGF-1 levels.

L5 ANSWER 32 OF 52 EMBASE
ACCESSION NUMBER: 1997049262 EMBASE
TITLE: Elevated fibrinogen levels decrease following treatment of acromegaly.
AUTHOR: Landin-Wilhelmsen, Kerstin, Dr. (correspondence); Tengborn, Lilian; Bengtsson, Bengt-Ake
CORPORATE SOURCE: Res. Ctr. for Endocrinol. and Metab., Department of Medicine, Sahlgrenska Hospital, Goteborg, Sweden.
AUTHOR: Wilhelmsen, Lars
CORPORATE SOURCE: Dept. of Heart and Lung Diseases, Ostra Hospital, Goteborg University, Goteborg, Sweden.
AUTHOR: Landin-Wilhelmsen, Kerstin, Dr. (correspondence)
CORPORATE SOURCE: Res. Ctr. for Endocrinol. and Metab., Department of Medicine, Sahlgrenska Hospital, S-413 45 Goteborg, Sweden.
AUTHOR: Landin-Wilhelmsen, Kerstin, Dr. (correspondence)

CORPORATE SOURCE: Res. Ct. Endocrinology/Metabolism, Department of Medicine, Sahlgrenska Hospital, S-413 45 Goteborg, Sweden.
SOURCE: Clinical Endocrinology, (1997) Vol. 46, No. 1, pp. 69-74. Refs: 29
ISSN: 0300-0664 CODEN: CLENAO
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 025 Hematology
003 Endocrinology
037 Drug Literature Index
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 24 Mar 1997
Last Updated on STN: 24 Mar 1997

AB Objective: Acromegaly is associated with increased morbidity and mortality from cardiovascular disease and from stroke in particular. Fibrinogen is an established risk factor for stroke and myocardial infarction and high levels of plasminogen activator inhibitor-1 (PAI-1) activity were predictive of a recurrent myocardial infarction. The aim of this study was to analyse fibrinogen and PAI-1 activity in patients with acromegaly before and after treatment. Patients: Twenty patients with acromegaly were compared with healthy controls matched for sex (12 men, 8 women), age (mean 53 ± 7 years), body mass index (mean 26.5 ± 2.5 kg/m2) and smoking. Fibrinogen was also compared with a random population sample of men and women (n = 392), aged 25-64 years, from the WHO's Monica Project, Goteborg, Sweden. Results: The acromegalic patients had a higher lean body mass of 65 ± 11 vs 59 ± 11 kg ($P < 0.05$), lower body fat of 17 ± 8 vs 25 ± 10 kg ($P < 0.01$), higher plasma fibrinogen of 4.0 ± 0.9 vs 2.4 ± 0.5 g/l ($P < 0.001$) and plasma insulin of 15 ± 14 vs 7 ± 2 mU/l ($P < 0.01$), serum triglycerides of 1.5 ± 0.5 vs 1.2 ± 0.5 mmol/l ($P < 0.05$), as well as serum insulin-like growth factor-I (IGF-I) levels of 742 ± 271 vs 168 ± 51 μg/l ($P < 0.001$) compared with the matched controls. PAI-1 activity was similar, as was total cholesterol, high-density lipoprotein cholesterol, low-density lipoprotein cholesterol, fasting blood glucose and blood pressure for acromegalic patients compared with controls. All the acromegalic patients had higher fibrinogen levels ($P < 0.001$) than the population mean. Plasma fibrinogen correlated positively with serum IGF-I in acromegaly ($r = 0.55$, $p < 0.05$). Fibrinogen decreased to a mean value of 3.2 ± 0.3 g/l on treatment. Conclusion: Acromegaly is associated with high fibrinogen levels which may be one explanation for the increased risk of cardiovascular events, and stroke in particular, in this disease. Fibrinogen levels decreased following treatment of acromegaly.

L5 ANSWER 33 OF 52 MEDLINE on STN DUPLICATE 7
ACCESSION NUMBER: 1997212741 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9059559
TITLE: Diurnal variation in serum insulin-like growth factor (IGF)-I and IGF binding protein-3 concentrations during daily subcutaneous injections of recombinant human growth hormone in GH-deficient adults.
AUTHOR: Oscarsson J; Johannsson G; Johansson J O; Lundberg P A; Lindstedt G; Bengtsson B A
CORPORATE SOURCE: Research Centre for Endocrinology and Metabolism, Sahlgrenska University Hospital, Goteborg, Sweden.
SOURCE: Clinical endocrinology, (1997 Jan) Vol. 46, No. 1, pp. 63-8.
Journal code: 0346653. ISSN: 0300-0664. L-ISSN: 0300-0664.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)

LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199703
ENTRY DATE: Entered STN: 27 Mar 1997
Last Updated on STN: 27 Mar 1997
Entered Medline: 20 Mar 1997

AB OBJECTIVE: Whereas there seems to be little, if any, circadian variation in circulating concentrations of IGF-I and IGFBP-3 in healthy subjects, there are conflicting reports on this issue in GH-deficient patients treated with GH as a daily subcutaneous injection. We have therefore investigated the 24-hour serum profiles of IGF-I and IGFBP-3 concentrations after one week and more than one year of GH treatment. PATIENTS: Eleven subjects, with adult onset GH deficiency mainly caused by pituitary adenomas were included in the study. DESIGN AND MEASUREMENTS: In an open study, six subjects (three women and three men; age (+/-SEM) 41.2 +/- 3.9 years) were investigated after one week of GH therapy and five subjects (three women and two men; age (+/-SEM) 61.4 +/- 3.3 years) were investigated after 13-40 months of GH therapy. The GH injections were given at 2000 h. The subjects were hospitalized for 24-hour blood sampling at 1-hour intervals and serum concentrations of GH, IGF-I and IGFBP-3 were determined. RESULTS: There was a significant diurnal variation in serum IGF-I and IGFBP-3 concentrations both in the subjects who had received GH for one week and in those who had received GH treatment for more than one year. The serum concentrations of IGF-I and IGFBP-3 were highest in the morning and lowest during night-time and early morning. The molar IGF-I/IGFBP-3 ratio varied significantly with time in both groups of patients in a similar way as IGF-I and IGFBP-3 indicating a more pronounced variation in IGF-I compared with IGFBP-3 in response to the GH therapy. CONCLUSION: Significant diurnal variations in serum IGF-I and IGFBP-3 concentrations occur after one week and more than one year of GH treatment with daily subcutaneous injections. The results indicate that the free fraction of IGF-I may exhibit a diurnal variation.

L5 ANSWER 34 OF 52 EMBASE
ACCESSION NUMBER: 1996114125 EMBASE
TITLE: The individual responsiveness to growth hormone (GH) treatment in GH- deficient adults is dependent on the level of GH-binding protein, body mass index, age, and gender.
AUTHOR: Johannsson, G., Dr. (correspondence); Bjarnason, R.; Bramnert, M.; Carlsson, L.M.S.; Degerblad, M.; Manhem, P.; Rosen, T.; Thoren, M.; Bengtsson, B.-A.
CORPORATE SOURCE: Res. Ctr. for Endocrinology/Metabol., Sahlgrenska University Hospital, S-413 45 Goteborg, Sweden.
SOURCE: Journal of Clinical Endocrinology and Metabolism, (1996) Vol. 81, No. 4, pp. 1575-1581.
ISSN: 0021-972X CODEN: JCEMAZ
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 003 Endocrinology
037 Drug Literature Index
006 Internal Medicine
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 13 May 1996
Last Updated on STN: 13 May 1996

AB The aim of the present trial was to study the individual responsiveness to GH treatment in terms of body composition and to search for possible predictors of the response in GH-deficient adults. Sixty-eight patients (44 men and 24 women) with a mean age of 44.3 (1.2) yr and verified GH deficiency participated in a 2-phase treatment trial with an initial

randomized, double blind, placebo-controlled, 6-month period, followed by an open treatment period, thereby ensuring all patients 12 months of GH treatment. Recombinant human GH was administered sc daily at bedtime, with a target dose of 12 μg/kg.ovrhdot.day. GHBP was measured by ligand-mediated immunofunctional assay, and serum insulin-like growth factor I (IGF-I) was determined by RIA after acid- ethanol extraction, using a truncated IGF-I analog as the radioligand. Lean body mass (LBM) and body fat (BF) were determined by dual energy x-ray absorptiometry, and total body water (TBW) was determined by bioelectrical impedance. During the placebo control period, serum IGF-I, LBM, and TBW increased ($P < 0.001$), whereas BF decreased ($P < 0.001$) and serum GHBP was unchanged in the group treated with GH compared with the patients treated with placebo. After 12 months of GH treatment, the individual changes in BF ranged from -12.5 to 4.3 kg and from - 4.5 to 10.1 kg in LBM. Age ($P < 0.05$) and baseline GHBP level ($P < 0.01$) were inversely correlated with the increase in LBM. The GH-induced increment in IGF-I and TBW was greater in men than in women ($P < 0.01$), whereas the decreases in BF were similar in men and women. This trial demonstrates the variability in responsiveness to GH administration in GH-deficient adults. The best response to GH was obtained in younger patients with low GHBP levels. Furthermore, men responded better than women.

L5 ANSWER 35 OF 52 EMBASE

ACCESSION NUMBER: 1996339729 EMBASE

TITLE: Long-term treatment with growth hormone decreases plasminogen activator inhibitor-1 and tissue plasminogen activator in growth hormone -deficient adults.

AUTHOR: Johansson, Jan-Ove (correspondence); Landin, Kerstin; Johannsson, Gudmundur; Tengborn, Lilian; Bengtsson, Bengt-Ake

CORPORATE SOURCE: Department of Medicine, Sahlgrenska University Hospital, Goteborg University, Goteborg, Sweden. jan-ove.johansson@ss.gu.se

AUTHOR: Johansson, Jan-Ove (correspondence)

CORPORATE SOURCE: Res. Ctr. for Endocrinol./Metabolism, Division of Endocrinology, Sahlgrenska University Hospital, S-413 45 Goteborg, Sweden. jan-ove.johansson@ss.gu.se

AUTHOR: Johansson, Jan-Ove (correspondence)

CORPORATE SOURCE: Res. Centre Endocrinology Metabolism, Division of Endocrinology, Sahlgrenska University Hospital, S-413 45 Goteborg, Sweden.

SOURCE: Thrombosis and Haemostasis, (1996) Vol. 76, No. 3, pp. 422-428.
Refs: 45
ISSN: 0340-6245 CODEN: THHADQ

COUNTRY: Germany

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 025 Hematology
003 Endocrinology
037 Drug Literature Index

LANGUAGE: English

SUMMARY LANGUAGE: English

ENTRY DATE: Entered STN: 3 Dec 1996
Last Updated on STN: 3 Dec 1996

AB The syndrome of growth hormone deficiency (GHD) in adults is associated with premature atherosclerosis, increased cardiovascular mortality, abnormal lipoprotein patterns and abnormal body composition. We have previously shown that GH-deficient adults have increased concentrations of fibrinogen and plasminogen activator inhibitor (PAI-1) activity. The aim of the present investigation was to study

coagulation and fibrinolysis in 17 patients with adult-onset GHD during two years of treatment with recombinant human GH (12 μg/kg body weight/day). The impact of the contemporary changes in metabolic variables and body composition on coagulation and fibrinolysis was studied. The patients received conventional thyroid, adrenal and gonadal hormone replacement therapy. PAI-1 activity, PAI-1 antigen and tissue plasminogen activator (t-PA) antigen levels decreased during the GH treatment period ($p < 0.05$). The decrease was more pronounced in patients with high pre-treatment levels of the different variables. α2-antiplasmin decreased ($p < 0.05$), while plasminogen was unchanged during two years of GH treatment. Fibrinogen concentrations tended to decrease after two years of CH treatment ($p = 0.06$), while the coagulation factors VII and VIII were unchanged. von Willebrand factor demonstrated a transient decrease after 18 months of GH treatment. The coagulation inhibitor, protein C, decreased ($p < 0.05$), while antithrombin was unchanged. Fasting plasma insulin increased ($p < 0.01$), but blood glucose did not differ after two years of GH treatment. Serum high-density lipoprotein cholesterol, total cholesterol and triglycerides were unaltered. Body fat decreased during the initial GH treatment but was unaltered after two years, while lean body mass increased ($p < 0.001$) and the waist over hip circumference ratio tended to decrease ($p = 0.06$). In conclusion, PAI-1 activity, PAI-1 antigen and t-PA antigen decreased during long-term GH treatment. These changes may be a direct effect of GH itself or may be secondary to the favourable changes in body composition. It remains to be seen whether changes in these fibrinolytic variables during rhGH treatment reduces the cardiovascular risk in patients with GHD. The present results suggest that GH plays a role in the regulation of fibrinolysis.

L5 ANSWER 36 OF 52 EMBASE

ACCESSION NUMBER: 1996134560 EMBASE

TITLE: Comparison of methods to estimate body fat in growth hormone deficient adults.

AUTHOR: Bosaeus, I. (correspondence); Johannsson, G.; Rosen, T.; Hallgren, P.; Tolli, J.; Sjostrom, L.; Bengtsson, B.-A.

CORPORATE SOURCE: Department of Clinical Nutrition, Sahlgrenska University Hospital, S-413 45 Goteborg, Sweden.

SOURCE: Clinical Endocrinology, (1996) Vol. 44, No. 4, pp. 395-402. ISSN: 0300-0664 CODEN: CLENAO

COUNTRY: United Kingdom

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 003 Endocrinology
037 Drug Literature Index

LANGUAGE: English

SUMMARY LANGUAGE: English

ENTRY DATE: Entered STN: 4 Jun 1996
Last Updated on STN: 4 Jun 1996

AB Objective. All of the present used methods for in-vivo determination of body composition have inherent methodological errors and depend on various assumptions. We have therefore compared several different methods used to measure body fat in adult GH deficiency during GH treatment. Design. Comparison of body composition data from a two-phase trial with an initial placebo-controlled, double-blind 6-month period, followed by open treatment with GH until all patients had received GH for 12 months. Patients. Twenty-five patients with known GH deficiency entered the study. Baseline examinations were complete in 23 patients, and 22 patients (16 males, 6 females) completed all examinations after treatment. Measurements. Body fat calculated from total body potassium (TBK) by whole-body 40K counting, total body water (TBW) by tritium dilution, total body nitrogen (TBN) by neutron activation, and bioelectric impedance (BIA)

measurements were compared to body fat determinations by dual-energy X-ray absorptiometry (DEXA) in two-compartment and multicompartment body composition models. Results. At baseline, DEXA fat mass agreed well at group level with measurements based on TBW or TBK alone, in a four-compartment model based on TBK and TBW, and a multicompartment model based on bone mineral (by DEXA), TBN and TBW. Body fat by BIA agreed less well. After 12 months of GH treatment, body fat decreased by all methods used. This decrease was smaller by DEXA than by the other methods. The four-compartment model based on TBK and TBW, and TBW alone, showed the best agreement with changes in DEXA fat. Conclusion. All methods showed a decrease of body fat with GH treatment, but variation between methods was considerable.

L5 ANSWER 37 OF 52 MEDLINE on STN DUPLICATE 8
ACCESSION NUMBER: 1996198667 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8606646
TITLE: Two weeks of daily injections and continuous infusion of recombinant human growth hormone (GH) in GH-deficient adults. II. Effects on serum lipoproteins and lipoprotein and hepatic lipase activity.
AUTHOR: Oscarsson J; Ottosson M; Johansson J O; Wiklund O; Marin P; Bjorntorp P; Bengtsson B A
CORPORATE SOURCE: Research Centre for Endocrinology and Metabolism, Goteborg University,Sahlgrenska Hospital, Sweden.
SOURCE: Metabolism: clinical and experimental, (1996 Mar) Vol. 45, No. 3, pp. 370-7.
Journal code: 0375267. ISSN: 0026-0495. L-ISSN: 0026-0495.
PUB. COUNTRY: United States
DOCUMENT TYPE: (COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199605
ENTRY DATE: Entered STN: 31 May 1996
Last Updated on STN: 31 May 1996
Entered Medline: 23 May 1996

AB Recombinant human growth hormone (GH) administered as daily subcutaneous (SC) injections has been shown to affect serum lipoproteins in GH-deficient subjects. However, the effects of continuous infusion of GH on serum lipoproteins have not been investigated in GH-deficient adults. The aim of the present study was to compare effects of daily injections and continuous infusion of GH on lipoprotein metabolism. Recombinant human GH (0.25 U/kg/wk) was administered to nine GH-deficient adult men during a period of 14 days in two different ways, ie, as a daily SC injection at 8:00 PM and as a continuous SC infusion, with 1 month of washout between the treatments. Blood samples and tests were performed in the morning after an overnight fast before the start of GH treatment (day 0) and on day 2 and day 14 of treatment. Abdominal SC adipose tissue lipoprotein lipase (LPL), postheparin plasma LPL, and hepatic lipase (HL) activity were measured 120 minutes after the intake of 100 g glucose. Adipose tissue LPL activity decreased and postheparin plasma HL activity increased after 14 days of GH treatment irrespective of the mode of GH administration, whereas GH treatment had no effect on postheparin plasma LPL activity. Serum triglyceride and very-low-density lipoprotein (VLDL) triglyceride concentrations increased during GH treatment. However, VLDL triglyceride concentrations increased to a greater degree during treatment with daily GH injections than during continuous infusion of GH. Serum apolipoprotein (apo) B and low-density lipoprotein (LDL) cholesterol concentrations decreased during treatment with daily GH injections, but were not significantly affected by continuous GH infusion. Thus, apo B and LDL cholesterol concentrations

were lower after daily GH injections versus continuous GH infusion. Serum lipoprotein(a) [Lp(a)] and apo E concentrations increased during both modes of GH treatment. However, continuous infusion of GH resulted in a more marked increase in Lp(a) and apo E concentrations than daily GH injections. Minor effects were observed on serum apo A-I concentrations but high-density lipoprotein (HDL) cholesterol concentrations were not affected. In conclusion, GH treatment of GH-deficient men influenced adipose tissue LPL and postheparin plasma HL activity, as well as serum lipoprotein concentrations. Moreover, continuous GH infusion and daily GH injections differed with respect to the magnitude of effects on several lipoprotein fractions including VLDL triglycerides, LDL cholesterol, apo B, apo E, and Lp(a) concentrations.

L5 ANSWER 38 OF 52 MEDLINE on STN DUPLICATE 9
ACCESSION NUMBER: 1996198666 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8606645
TITLE: Two weeks of daily injections and continuous infusion of recombinant human growth hormone (GH) in GH-deficient adults: I. Effects on insulin-like growth factor-I (IGF-I), GH and IGF binding proteins, and glucose homeostasis.
AUTHOR: Johansson J O; Oscarsson J; Bjarnason R; Bengtsson B A
CORPORATE SOURCE: Research Centre for Endocrinology and Metabolism, Sahlgrenska University Hospital, Goteborg University, Sweden.
SOURCE: Metabolism: clinical and experimental, (1996 Mar) Vol. 45, No. 3, pp. 362-9.
Journal code: 0375267. ISSN: 0026-0495. L-ISSN: 0026-0495.
PUB. COUNTRY: United States
DOCUMENT TYPE: (COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199605
ENTRY DATE: Entered STN: 31 May 1996
Last Updated on STN: 31 May 1996
Entered Medline: 23 May 1996

AB Recombinant human growth hormone (GH) is routinely administered as daily subcutaneous injections to patients with GH deficiency (GHD). However, in the hypophysectomized rat, pulsatile and continuous infusion of GH has been shown to differ in terms of the magnitude of effect on longitudinal bone growth, serum insulin-like growth factor-I (IGF-I) concentrations, and hepatic metabolism. The aim of the present study was to compare the effects of daily injections and continuous infusion of GH in GHD adults on previously well-documented GH-dependent factors. Recombinant human GH (0.25 U/kg/wk) was administered to nine men with GHD for 14 days in two different ways, ie, as a daily subcutaneous injection at 8 PM and as a continuous subcutaneous infusion, with 1 month of washout between treatments. Blood samples and tests were performed in the morning after an overnight fast before the start of GH treatment (day 0) and on day 2 and day 14 of treatment. An oral glucose tolerance test (OGTT) was performed on day 0 and day 14. Daily injections and continuous infusion of GH exerted similar effects in terms of body weight and body composition. The two modes of administration resulted in similar daily urinary GH excretion and similar serum GH concentrations in the morning. GH binding protein (GHBP) concentrations did not change significantly during the various treatment periods. Serum IGF-I and IGF-I binding protein (IGFBP)-3 concentrations increased to a greater degree during continuous infusion of GH versus daily injections. Serum IGFBP-I concentrations decreased to a similar

degree during the two modes of administration. Serum concentrations of free triiodothyronine and total triiodothyronine (T3) increased and free thyroxine (T4) decreased to a similar degree, independent of the mode of administration. However, total T4 concentrations were unchanged during both modes of treatment. Serum thyrotropin (TSH) concentrations decreased during continuous infusion, and there was a similar nonsignificant decrease during daily injections of GH. Fasting free fatty acid (FFA) levels increased during treatment with only daily injection of GH, but there was no significant effect from continuous infusion. Results of measurements of fasting concentrations of blood glucose and oral glucose tolerance (OGT) indicated a more impaired glucose tolerance after daily injections of GH versus continuous infusion. In conclusion, continuous infusion and daily injections of GH have similar effects on the variables described, but the magnitude of the effects differs.

L5 ANSWER 39 OF 52 MEDLINE on STN DUPLICATE 10
ACCESSION NUMBER: 1996379924 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8787937
TITLE: Body composition and tissue distributions in growth hormone deficient adults before and after growth hormone treatment.
AUTHOR: Lonn L; Johansson G; Sjostrom L; Kvist H; Oden A; Bengtsson B A
CORPORATE SOURCE: Department of Diagnostic Radiology, University of Goteborg, Sweden.
SOURCE: Obesity research, (1996 Jan) Vol. 4, No. 1, pp. 45-54. Journal code: 9305691. ISSN: 1071-7323. L-ISSN: 1071-7323.
PUB. COUNTRY: United States
DOCUMENT TYPE: (CLINICAL TRIAL) Journal; Article; (JOURNAL ARTICLE) (RANDOMIZED CONTROLLED TRIAL) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199610
ENTRY DATE: Entered STN: 6 Nov 1996 Last Updated on STN: 6 Nov 1996 Entered Medline: 18 Oct 1996

AB This study examines short and long-term effects of recombinant human growth hormone (rhGH) on body composition and regional tissue distributions by using a multicompartment technique based on computed tomography. Part I includes nine subjects aged 46 +/- 9 years with adult onset GH deficiency who were examined before and in the end of 6 months treatment with rhGH (0.4 U.kg-1.week-1) in a double-blind crossover trial. Part II is an ongoing open trial including seven of the males in part I. They were treated with rhGH (0.25 U.kg-1.week-1) over an additional period of 24 months. Adipose tissue (AT) was reduced by 4.7 kg ($p < 0.01$) while the muscle plus skin compartment (M) and visceral organs (V) were increased by 2.4 ($p < 0.05$) and 0.7 kg ($p < 0.01$), respectively, over 6 months of treatment with a high rhGH dose. A preferential lipid mobilization occurred in the visceral and subcutaneous trunk depots resulting in a changed AT distribution. Muscles of legs and arms increased while the increase of trunk muscles did not reach significance. The body composition changes were maintained over 2 years additional treatment. The preferential loss in visceral AT was further pronounced while other changes in tissue distributions observed during the first 6 months tended to be reversed on the lower rhGH dosage. It is concluded that growth hormone has profound and discordant effects on AT, M and V and with associated changes in tissue distributions. The beneficial effects on body composition seen in short-term treatment is preserved throughout an additional 24 months period of treatment.

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ACCESSION NUMBER: 1996000793 EMBASE

TITLE: Effects of 1 year of growth hormone therapy on serum lipoprotein levels in growth hormone-deficient adults: Influence of gender and apo(a) and apoE phenotypes.

AUTHOR: Johannsson, Gudmundur, Dr. (correspondence); Oscarsson, Jan; Rosen, Thord; Bengtsson, Bengt-Ake

CORPORATE SOURCE: Res. Ctr. for Endocrinol. and Metab., Sahlgrenska University Hospital, Goteborg, Sweden. gudmundur.johannsson@ss.gu.se

AUTHOR: Wiklund, Olov; Olsson, Gun

CORPORATE SOURCE: Wallenberg Laboratory, Sahlgrenska University Hospital, Goteborg, Sweden.

AUTHOR: Wilhelmsen, Lars

CORPORATE SOURCE: Department of Medicine, Ostra University Hospital, Goteborg, Sweden.

AUTHOR: Johannsson, Gudmundur, Dr. (correspondence)

CORPORATE SOURCE: Res. Ctr. for Endocrinol. and Metab., Sahlgrenska University Hospital, S-413 45 Goteborg, Sweden. gudmundur.johannsson@ss.gu.se

AUTHOR: Johannsson, Gudmundur, Dr. (correspondence)

CORPORATE SOURCE: Endocrinology/Metabolism Res. Center, Sahlgrenska University Hospital, S-413 45 Goteborg, Sweden.

SOURCE: Arteriosclerosis, Thrombosis, and Vascular Biology, (Dec 1995) Vol. 15, No. 12, pp. 2142-2150.
Refs: 57
ISSN: 1079-5642 CODEN: ATVBFA

COUNTRY: United States

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 018 Cardiovascular Diseases and Cardiovascular Surgery
003 Endocrinology
037 Drug Literature Index

LANGUAGE: English

SUMMARY LANGUAGE: English

ENTRY DATE: Entered STN: 16 Jan 1996
Last Updated on STN: 16 Jan 1996

AB We investigated the influence of gender and apoE and apo(a) phenotypes as well as the effect of the metabolic effects of growth hormone (GH) on the effect of GH therapy on serum lipoprotein concentrations in GH-deficient (GHD) adults. Forty-four consecutive patients, 30 men and 14 women aged 46.5 (range, 19 to 76) years with GHD due mainly to pituitary tumors, were treated with recombinant human GH for 12 months. Serum concentrations of lipoproteins, insulin, thyroxine, and insulin-like growth factor-1 were determined, body composition was assessed by bioelectrical impedance, and apo(a) and apoE phenotypes were analyzed. Lipoprotein(a) [Lp(a)] concentrations in the GHD subjects were compared with a gender- and apo(a) phenotype-matched control group. After 12 months of GH treatment, the total cholesterol, LDL cholesterol, and apoB concentrations decreased, the HDL cholesterol and apoE concentrations increased, and the apoA-I and triglyceride concentrations were unchanged. Before treatment, the Lp(a) concentration was similar to that in the control group. However, after 12 months of treatment, the Lp(a) concentration had increased by 44% and 101% above baseline and the control group, respectively. Men and women responded differently to GH, with a more marked increase in Lp(a) concentration and fat-free mass and a more pronounced decrease in body-fat mass in men. Apo(a) phenotypes had no major influence on the effect of GH therapy. The only significant difference between apoE phenotypes was a higher baseline Lp(a) concentration among apoE4 heterozygotes. Changes in body composition,

insulin, insulin-like growth factor-1, and thyroxine concentrations explained at most 27% of the changes that occurred in serum lipoproteins levels during GH treatment. The effects of GH therapy on serum lipoprotein levels and body composition in GHD adults were dependent in part on gender or current sex hormone therapy. However, no major influence by apo(a) or apoE phenotype or changes in metabolic variables were detected on the effects of GH therapy on serum lipoprotein levels.

L5 ANSWER 41 OF 52 EMBASE

ACCESSION NUMBER: 1995242287 EMBASE

TITLE: Reduced bone mineral density in adults with growth hormone (GH) deficiency: Increased bone turnover during 12 months of GH substitution therapy.

AUTHOR: Degerblad, M. (correspondence); Bengtsson, B.-A.; Bramnert, M.; Johnell, O.; Manhem, P.; Rosen, T.; Thoren, M.

CORPORATE SOURCE: Dept. Endocrinology and Diabetology, Karolinska Hospital, S-171 76 Stockholm, Sweden.

SOURCE: European Journal of Endocrinology, (1995) Vol. 133, No. 2, pp. 180-188.
ISSN: 0804-4643 CODEN: EJOEEP

COUNTRY: Norway
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 003 Endocrinology
037 Drug Literature Index
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 12 Sep 1995
Last Updated on STN: 12 Sep 1995

AB To evaluate the consequences of growth hormone (GH) deficiency on bone mineral density and to evaluate the effects of GH substitution therapy, 68 adults (25 females and 43 males) aged 22-61 (mean 44.2 ± 1.2) years with GH deficiency (GHD) were studied. Fifty-eight patients had panhypopituitarism, three had isolated GHD and in seven patients at least one additional pituitary function was affected. Twenty-one patients had childhood onset GHD, The patients were randomized to receive either GH in daily injections (0.125 IU .ovrhdot. kg-1 .ovrhdot. week-1 for the first 4 weeks and subsequently 0.25 IU .ovrhdot. kg-1 .ovrhdot. week-1) or placebo for 6 months. The trial continued as an open study with GH treatment for 6 or 12 months, with data presented as compiled data of 12 months of GH treatment in 64 patients. Bone mineral density (BMD) was measured by dual energy x-ray absorptiometry and bone turnover was assessed by serum markers of bone metabolism (osteocalcin, procollagen I peptide, crosslinked telopeptide of type I collagen and alkaline phosphatase activity), In women with adult onset GHD (N = 19) and in men with childhood onset GHD (N = 15), total body, spine and hip BMD was significantly reduced at baseline compared to Swedish age- and sex-matched control material. In men with adult onset of GHD (N = 28), BMD did not differ from male controls. During the placebo-controlled period, GH induced decreased total body and spine BMD, probably due to an expansion of the remodelling space, whereas all serum markers of bone turnover increased. Compiled GH data showed similar results after 6 months of treatment, After 12 months of GH treatment, BMD did not differ from basal values except for total body BMD, which was lower, whereas the serum markers of bone metabolism were still increased as compared to basal values, Two-thirds of the patients experienced fluid retention with peripheral oedema and arthralgias on the higher GH dosage. One obese patient developed non-insulin-dependent diabetes mellitus and was withdrawn from the study. These,results demonstrate that GHD has negative effects on BMD and that GH substitution induces increased bone turnover. Continued long-term observations will reveal if there is a positive effect

of GH substitution on bone mass in the adult GHD patient.

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ACCESSION NUMBER: 1995019978 EMBASE
TITLE: Effects of recombinant human growth hormone on basal metabolic rate in adults with pituitary deficiency.
AUTHOR: Stenlof, K.; Sjostrom, L., Dr. (correspondence); Lonn, L.; Bosaeus, I.; Kvist, H.; Tolli, J.; Lindstedt, G.; Bengtsson, B.-A.
CORPORATE SOURCE: SOS-Secretariat, Department of Medicine, Sahlgren's Hospital, S-413 45 Goteborg, Sweden.
SOURCE: Metabolism: Clinical and Experimental, (1995) Vol. 44, No. 1, pp. 67-74.
ISSN: 0026-0495 CODEN: METAAJ
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 003 Endocrinology
037 Drug Literature Index
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 9 Feb 1995
Last Updated on STN: 9 Feb 1995

AB The effect of recombinant human growth hormone (rhGH) on basal metabolic rate (BMR) was studied in a placebo-controlled, double-blind, crossover trial. Ten patients with a history of complete pituitary insufficiency were randomized for 26 weeks in each period. Three patients were excluded due to withdrawal, fever, and claustrophobia, respectively. All patients had received adrenal, thyroid, and gonadal substitution therapy for at least 1 year before the study. The dose of rhGH was 0.25 to 0.5 U/kg/wk, administered subcutaneously once a day in the evening. BMR was determined by indirect calorimetry in a computerized ventilated open-hood system. Body composition was examined using four different methods-computed tomography (CT), tritium dilution, 40K determinations, and total body nitrogen (TBN) measured with neutron activation. The body composition data have previously been reported. Fat-free mass (FFM) increased and body fat (BF) decreased during the first 6 weeks of rhGH treatment, but no further changes in body composition occurred between 6 and 26 weeks. Baseline BMRs in GH-deficient (GHD) patients were in the lower part of the reference range, but BMR and the ratio between BMR and FFM (BMR/FFM) were not significantly lower than in a carefully selected control group. BMR increased between 0 and 6 weeks (mean ± SD: from 6.68 ± 1.55 to 7.75 ± 1.35 MJ/24 h, $P < .001$) and then remained unchanged between 6 and 26 weeks. The increase in BMR was closely related to the increase in FFM ($r = .91$, $P < .01$). However, the increase in BMR was not solely related to changes in FFM, since there was a significant increase in BMR/FFM at 6 weeks that was maintained at 26 weeks. Pearson correlation analysis also revealed a close association between the increase in BMR after 6 weeks of rhGH treatment and increases in a number of metabolic variables, including total 3,5,3'-triiodothyronine ([T3] $r = .84$, $P < 0.05$), procollagen III peptide ([pIIIp] $r = .85$, $P < .05$), and free fatty acids ([FFA] $r = .95$, $P < .01$). Therefore, the increase in BMR after rhGH treatment is not simply a reflection of altered body composition, but may also involve other mechanisms including lipolysis, increased thyroxine (T4) deiodination resulting in increased circulating T3 concentrations, and/or increased protein synthesis as demonstrated by increased circulating pIIIp levels.

L5 ANSWER 43 OF 52 MEDLINE on STN DUPLICATE 11

ACCESSION NUMBER: 1996157189 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8563072

TITLE: Patient evaluation of a new injection pen for growth hormone treatment in children and adults.
AUTHOR: Sjoblom K; Albertsson-Wikland K; Bengtsson B A; Johannsson G; Thoren M; Degerblad M; Savage M O
CORPORATE SOURCE: Pharmacia AB, Peptide Hormones, Stockholm, Sweden.
SOURCE: Acta paediatrica (Oslo, Norway : 1992). Supplement, (1995 Sep) Vol. 411, pp. 63-5.
Journal code: 9315043. ISSN: 0803-5326. L-ISSN: 0803-5326.
PUB. COUNTRY: Norway
DOCUMENT TYPE: (COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199603
ENTRY DATE: Entered STN: 15 Mar 1996
Last Updated on STN: 15 Mar 1996
Entered Medline: 5 Mar 1996

AB The aim of this study was to evaluate patients' perception and acceptance of a new multi-dose injection device (Genotropin Pen) for recombinant growth hormone (GH) supplied in a two-chamber cartridge.
The pen is combined with a very thin needle (B-D Microfine + (29 G) and meets future demands when dosing of GH will be changed from International Units (IU) to milligrams (mg). A total of 39 children receiving GH treatment (East Hospital, Gothenburg and St Bartholomew's Hospital, London), aged between 7 and 17 years, and 39 GH-treated adults (Sahlgrenska Hospital, Gothenburg and Karolinska Hospital, Stockholm), aged between 20 and 68 years, participated in the study. The daily dose ranged from 0.3 mg to 2.6 mg. The injections were given subcutaneously, once daily, and most of the patients used the thigh as an injection site. After a trial period of 2 weeks, injection technique, pain, fear of injection and convenience of the Genotropin Pen were compared with the experience with the prestudy device (Genotropin KabiPen 16, 16(8) or 36) by questionnaire. A total of 95% of the patients preferred the Genotropin Pen to the prestudy device for the following reasons: a greater certainty of correct dosing with the digital display; the possibility of correcting the set dose; the lock function of the injection button when injection is complete; more comfortable to hold due to the design and the plastic material; and reduced pain when injecting due to the thinner needles. Four patients (5%) preferred the prestudy device KabiPen as they considered this to be 'good enough'. Thus, the Genotropin Pen is a convenient injection device and most patients prefer it to the KabiPen.

L5 ANSWER 44 OF 52 EMBASE
ACCESSION NUMBER: 1995331211 EMBASE
TITLE: Patient evaluation of a new injection pen for growth hormone treatment in children and adults.
AUTHOR: Sjoblom, K. (correspondence); Albertsson-Wikland, K.; Bengtsson, B.-A.; Johansson, G.; Thoren, M.; Degerblad, M.; Savage, M.O.
CORPORATE SOURCE: Pharmacia AB, Biopharmaceuticals, S-112 87 Stockholm, Sweden.
SOURCE: Acta Paediatrica, International Journal of Paediatrics, Supplement, (1995) Vol. 84, No. 411, pp. 63-65.
ISSN: 0803-5326 CODEN: APUPEI
COUNTRY: Norway
DOCUMENT TYPE: Journal; Conference Article; (Conference paper)
FILE SEGMENT: 003 Endocrinology
037 Drug Literature Index
006 Internal Medicine

007 Pediatrics and Pediatric Surgery
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 5 Dec 1995
Last Updated on STN: 5 Dec 1995
AB The aim of this study was to evaluate patients' perception and acceptance of a new multi-dose injection device (Genotropin® Pen) for recombinant growth hormone (GH) supplied in a two-chamber cartridge.
The pen is combined with a very thin needle (B-D Microfine + (29 G) and meets future demands when dosing of GH will be changed from International Units (IU) to milligrams (mg). A total of 39 children receiving GH treatment (East Hospital, Gothenburg and St Barthoromew's Hospital, London), aged between 7 and 17 years, and 39 GH-treated adults (Sahlgrenska Hospital, Gothenburg and Karolinska Hospital, Stockholm), aged between 20 and 68 years, participated in the study. The daily dose ranged from 0.3 mg to 2.6 mg. The injections were given subcutaneously, once daily, and most of the patients used the thigh as an injection site. After a trial period of 2 weeks, injection technique, pain, fear of injection and convenience of the Genotropin® Pen were compared with the experience with the prestudy device (Genotropin KabiPen® 16, 168 or 36) by questionnaire. A total of 95% of the patients preferred the Genotropin® Pen to the prestudy device for the following reasons: a greater certainty of correct dosing with the digital display; the possibility of correcting the set dose; the lock function of the injection button when injection is complete; more comfortable to hold due to the design and the plastic material; and reduced pain when injecting due to the thinner needles. Four patients (5%) preferred the prestudy device KabiPen® as they considered this to be 'good enough'. Thus, the Genotropin® Pen is a convenient injection device and most patients prefer it to the KabiPen®.

L5 ANSWER 45 OF 52 EMBASE
ACCESSION NUMBER: 1996241837 EMBASE
TITLE: Metabolic effects of growth hormone related to mode of administration.
AUTHOR: Johansson, J.-O. (correspondence); Oscarsson, J.; Bengtsson, B.-A.
CORPORATE SOURCE: Division of Endocrinology, Endocrinology/Metabolism Res. Centre, Sahlgrenska University Hospital, S-413 45 Gothenburg, Sweden.
SOURCE: Endocrinology and Metabolism, Supplement, (1995) Vol. 3, No. A, pp. 63-67.
ISSN: 1074-939X CODEN: EMESF5
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Conference Article; (Conference paper)
FILE SEGMENT: 029 Clinical and Experimental Biochemistry
003 Endocrinology
030 Clinical and Experimental Pharmacology
037 Drug Literature Index
006 Internal Medicine
LANGUAGE: English
ENTRY DATE: Entered STN: 16 Sep 1996
Last Updated on STN: 16 Sep 1996

L5 ANSWER 46 OF 52 EMBASE
ACCESSION NUMBER: 1995017184 EMBASE
TITLE: Treatment of growth hormone-deficient adults with recombinant human growth hormone increases the concentration of growth hormone in the cerebrospinal fluid

and affects neurotransmitters.

AUTHOR: Johansson, J.-O.; Larson, G.; Andersson, M.; Elmgren, A.; Hynsjo, L.; Lindahl, A.; Lundberg, P.-A.; Isaksson, O.G.P.; Lindstedt, S.; Bengtsson, B.-A., Dr. (correspondence)

CORPORATE SOURCE: Res. Centre Endocrinology Metabolism, Division of Endocrinology, Sahlgrenska Hospital, S-413 45 Goteborg, Sweden.

SOURCE: Neuroendocrinology, (1995) Vol. 61, No. 1, pp. 57-66.
ISSN: 0028-3835 CODEN: NUNDAJ

COUNTRY: Switzerland

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 029 Clinical and Experimental Biochemistry
003 Endocrinology
037 Drug Literature Index
006 Internal Medicine
007 Pediatrics and Pediatric Surgery

LANGUAGE: English

SUMMARY LANGUAGE: English

ENTRY DATE: Entered STN: 1 Feb 1995
Last Updated on STN: 1 Feb 1995

AB In a double-blind, placebo-controlled trial, the effects of recombinant human growth hormone were studied on cerebrospinal fluid concentrations of growth hormone, insulin-like growth factor 1 (IGF-1), insulin-like growth factor binding protein-3 (IGFBP-3), monoamine metabolites, neuropeptides and endogenous opioid peptides. Twenty patients, 10 patients in each of 2 groups, with adult-onset, growth hormone deficiency were treated for 1 month with recombinant human growth hormone (0.25 U/kg/week) or placebo. All the patients received the appropriate thyroid, adrenal and gonadal hormone replacement. In cerebrospinal fluid, the mean concentration of growth hormone increased from 13.3 ± 4.4 to 149.3 ± 22.2 μU/l (p = 0.002), during recombinant human growth hormone treatment. The cerebrospinal fluid IGF-1 concentration increased from 0.67 ± 0.04 to 0.99 ± 0.10 μg/l (p = 0.005) and the IGFBP-3 concentration rose from 13.4 ± 1.25 to 17.5 ± 1.83 μg/l (p = 0.002). The dopamine metabolite homovanillic acid decreased from 282.1 ± 36.0 to 234.3 ± 26.5 nmol/l (p = 0.02) and the vasoactive intestinal peptide decreased from 4.1 ± 0.6 to 3.7 ± 0.4 pmol/l (p = 0.03). Cerebrospinal fluid immunoreactive β-endorphin increased from 24.4 ± 1.8 to 29.9 ± 2.1 pmol/l (p = 0.002). There were no significant changes compared to baseline in the cerebrospinal fluid concentrations of enkephalins, dynorphin A, the norepinephrine metabolite 3-methoxy-4-hydroxyphenyl-ethyleneglycol, the serotonin metabolite 5-hydroxyindoleacetic acid, γ-aminobutyric acid, somatostatin or corticotropin-releasing factor. We conclude that treatment with recombinant human growth hormone causes a tenfold increase in growth hormone in the cerebrospinal fluid, thereby indicating that recombinant human growth hormone passes the blood-cerebrospinal fluid barrier. The cerebrospinal fluid concentrations of IGF-1 and IGFBP-3 increased significantly. Simultaneously, the cerebrospinal fluid concentrations of homovanillic acid and vasoactive intestinal peptide decreased and the concentration of β-endorphin immunoreactivities increased significantly. These changes might explain the improved quality-of-life in patients with growth hormone deficiency following replacement therapy with growth hormone.

L5 ANSWER 47 OF 52 MEDLINE on STN

ACCESSION NUMBER: 1994049155 MEDLINE

DOCUMENT NUMBER: PubMed ID: 8231841

TITLE: Effects of treatment with recombinant human growth hormone on insulin sensitivity and glucose metabolism in adults with growth hormone deficiency.
AUTHOR: Fowelin J; Attvall S; Lager I; Bengtsson B A
CORPORATE SOURCE: Department of Medicine, University of Gothenburg, Sahlgren's Hospital, Sweden.
SOURCE: Metabolism: clinical and experimental, (1993 Nov) Vol. 42, No. 11, pp. 1443-7.
Journal code: 0375267. ISSN: 0026-0495. L-ISSN: 0026-0495.
PUB. COUNTRY: United States
DOCUMENT TYPE: (CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RANDOMIZED CONTROLLED TRIAL)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199312
ENTRY DATE: Entered STN: 17 Jan 1994
Last Updated on STN: 17 Jan 1994
Entered Medline: 22 Dec 1993

AB In a double-blind, cross-over, placebo-controlled trial, the effect of 26 weeks of replacement therapy with recombinant human growth hormone (rhGH) on insulin sensitivity and glucose metabolism in nine patients with adult-onset growth hormone deficiency was studied with a euglycemic clamp. Glucose production and utilization were studied with D-(3-3H)-glucose infusions. Comparisons were made with placebo treatment for 6 and 26 weeks, respectively. GH therapy for 6 weeks increased fasting plasma concentrations of glucose and insulin. However, after 26 weeks of GH treatment, no significant changes in glucose or insulin concentrations were recorded. GH treatment induced a marked change in insulin action evident after 6 weeks of therapy as shown by lower glucose infusion rates (GIRs) during the clamp compared with placebo treatment (2.6 +/- 0.4 v 4.1 +/- 0.7 mg.kg-1.min-1). This change in insulin action was due to a decreased insulin effect on glucose utilization. After 26 weeks of GH therapy, there was no significant difference in GIRs. During placebo treatment, insulin sensitivity and insulin, glucose, and nonesterified fatty acid (NEFA) concentrations were unchanged compared with concentrations measured before the study. Thus GH replacement therapy induces a change in insulin action in GH-deficient individuals. Whether this change represents a decrease in insulin action (ie, insulin resistance) or a restoration of action to normal is presently unclear, since a healthy control group was not included in the study. During long-term treatment, the present study suggests that the change in insulin action can be reversed, probably secondarily to changes in body composition.

L5 ANSWER 48 OF 52 MEDLINE on STN DUPLICATE 12
ACCESSION NUMBER: 1993163197 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8432773
TITLE: Treatment of adults with growth hormone (GH) deficiency with recombinant human GH.
AUTHOR: Bengtsson B A; Eden S; Lonn L; Kvist H; Stokland A; Lindstedt G; Bosaeus I; Tolli J; Sjostrom L; Isaksson O G
CORPORATE SOURCE: Department of Medicine, Sahlgrenska Hospital, Medical Faculty, University of Goteborg, Sweden.
SOURCE: The Journal of clinical endocrinology and metabolism, (1993 Feb) Vol. 76, No. 2, pp. 309-17.
Journal code: 0375362. ISSN: 0021-972X. L-ISSN: 0021-972X.
PUB. COUNTRY: United States
DOCUMENT TYPE: (CLINICAL TRIAL)

(CONTROLLED CLINICAL TRIAL)
Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 199303
ENTRY DATE: Entered STN: 2 Apr 1993
Last Updated on STN: 29 Jan 1996
Entered Medline: 17 Mar 1993

AB In a double blind, cross-over placebo-controlled trial, we studied the effects of 26 weeks of replacement therapy with recombinant human GH on body composition, metabolic parameters, and well-being in 10 patients with adult-onset GH deficiency (GHD). All patients received appropriate thyroid, adrenal, and gonadal replacement therapy. The dose of recombinant human GH was 0.25-0.5 U/kg.week (0.013-0.026 mg/kg.day) and was administered sc daily at bedtime. One patient was withdrawn from the study because of edema and atrial fibrillation. Body composition was estimated with three independent methods: computed tomography, bioelectric impedance, and total body potassium combined with total body water assessments. The Comprehensive Psychological Rating Scale and the Symptom Check List-90 were used to assess any change in psychopathology. After 26 weeks of treatment, adipose tissue (AT) mass decreased 4.7 kg ($P < 0.001$). Subcutaneous AT decreased by an average of 13%, whereas visceral AT was reduced by 30%. Muscle volume increased by 2.5 kg (5%; $P < 0.05$). According to the four-compartment model derived from assessments of total body potassium and total body water, body cell mass and extracellular fluid volume increased significantly by 1.6 and 3.0 kg, whereas body fat decreased by 6.1 kg. Results obtained by the bioelectric impedance technique were similar. The mean (+/- SD) concentrations of insulin-like growth factor-I increased from 0.26 (0.06) at baseline to 2.56 (1.55) and 2.09 (1.03) kU/L after 6 and 26 weeks of treatment. Calcium and serum phosphate, osteocalcin, and procollagen-III concentrations were significantly higher, and intact PTH concentrations were reduced after 6 and 26 weeks of treatment, respectively. Total and free T3 concentrations were significantly increased after 6 and 26 weeks of treatment, whereas free T4 concentrations were reduced at 6 weeks, but after 26 weeks, free T4 concentrations had returned to pretreatment values. Finally, after 26 weeks of treatment, there was a decrease in the Comprehensive Psychological Rating Scale score ($P < 0.05$). The results show that GH replacement in GHD adults results in marked alterations in body composition, fat distribution, and bone and mineral metabolism and reduces psychiatric symptoms. Finally, we conclude that the observed beneficial effects of replacement therapy with GH are of sufficient magnitude to consider treatment of GHD adults.

ACCESSION NUMBER: 1993056803 EMBASE
TITLE: Growth hormone treatment of growth hormone-deficient adults results in a marked increase in Lp(a) and HDL cholesterol concentrations.
AUTHOR: Eden, S. (correspondence); Wiklund, O.; Oscarsson, J.; Rosen, T.; Bengtsson, B.-A.
CORPORATE SOURCE: Department of Physiology, University of Goteborg, Medicinaregatan 11, S-413 90 Goteborg, Sweden.
SOURCE: Arteriosclerosis and Thrombosis, (1993) Vol. 13, No. 2, pp. 296-301.
ISSN: 1049-8834 CODEN: ARTTE5
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 029 Clinical and Experimental Biochemistry

003 Endocrinology
037 Drug Literature Index
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 21 Mar 1993
Last Updated on STN: 21 Mar 1993

AB The effects of growth hormone treatment of adults with adult-onset pituitary insufficiency on lipoproteins and apolipoproteins were investigated. Nine patients, one women and eight men (age range, 34-58 years), who had been treated for pituitary tumors were studied. They had complete pituitary insufficiency with a duration of at least 1 year. All patients received replacement therapy with thyroid hormones, glucocorticoids, and gonadal steroids. The study had a double-blind, placebo-controlled, crossover design for active treatment with recombinant human growth hormone (0.25-0.5 units/kg per week s.c. given each evening) for 6 months. Fasting serum levels of cholesterol; triglycerides; high density lipoprotein and low density lipoprotein cholesterol; apolipoproteins A-I, B, and E; and lipoprotein (a) were measured before and after 6 and 26 weeks of treatment. Lipoprotein (a) concentrations increased markedly during treatment and were about twice as high compared with pretreatment levels. Serum cholesterol and low density lipoprotein cholesterol concentrations were decreased after 6 weeks of treatment, but levels had returned to pretreatment levels after 26 weeks. High density lipoprotein cholesterol concentrations increased during treatment and were significantly higher than pretreatment levels after 26 weeks of treatment. Serum triglyceride concentrations did not change significantly, but in two patients with marked hypertriglyceridemia, growth hormone treatment resulted in a marked decrease. Serum concentrations of apolipoproteins A-I, B, and E did not change significantly, but changes in apolipoprotein A-I and B concentrations were in parallel to those observed for high density lipoprotein cholesterol and low density lipoprotein cholesterol, respectively. These results suggest that growth hormone is a major regulator of lipoprotein metabolism and also demonstrate that lipoprotein (a) concentrations are regulated by growth hormone.

L5 ANSWER 50 OF 52 BIOSIS COPYRIGHT (c) 2010 The Thomson Corporation on STN
ACCESSION NUMBER: 1993:297483 BIOSIS
DOCUMENT NUMBER: PREV199396015708
TITLE: Adipose tissue and muscle volume determination by computed tomography in acromegaly, before and 1 year after adenomectomy.
AUTHOR(S): Brummer, R.-J. M. [Reprint author]; Lonn, L.; Kvist, H.; Grangard, U.; Bengtsson, B.-A.; Sjostrom, L.
CORPORATE SOURCE: Dep. Clinical Nutrition, Annedalsklinikerna, Sahlgrenska Hospital, S-413 45, Goteborg, Sweden
SOURCE: European Journal of Clinical Investigation, (1993) Vol. 23, No. 4, pp. 199-205.
CODEN: EJCIB8. ISSN: 0014-2972.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 23 Jun 1993
Last Updated on STN: 23 Jun 1993

AB The adipose tissue volume, skeletal muscle and skin volume and visceral organ volume were determined using the multiscan CT (computed tomography) technique in 15 patients with acromegaly. The examinations were performed before treatment and 1 year after transsphenoidal adenectomy. The mean body weight did not change significantly after treatment; 91.3 kg of 92.3 kg pre and postoperatively in men and 66.7 kg and 65.9 kg in women respectively. The total adipose tissue volume increased by 7.1 1(59.2%, P lt 0.01) in the male group and 3.9 1 (20.3%, P lt 0.05) in the female

group. Muscle and skin mass and visceral organ mass decreased significantly after treatment. The muscle and skin mass decreased by 3.6 1 (-7.4%, P lt 0.01) in males and by 3.2 1 in females (-11.5%, P lt 0.02). The corresponding decrease in visceral organ mass was 1.5 1 (-17.0%, P lt 0.01) in males and 1.0 1 (15.4%, P lt 0.05) in females respectively. On average, the fractions of adipose tissue in the subcutaneous trunk and the intra-abdominal depots increased after treatment, while the fractions of adipose tissue in the limbs and the head and neck region decreased. The change in adipose tissue distribution pattern reached significance (P lt 0.005) in men only.

L5 ANSWER 51 OF 52 EMBASE

ACCESSION NUMBER: 1993295693 EMBASE
TITLE: Cardiovascular risk factors in adult patients with growth hormone deficiency.
AUTHOR: Rosen, T. (correspondence); Eden, S.; Larson, G.; Wilhelmsen, L.; Bengtsson, B.-A.
CORPORATE SOURCE: Endocrine Division, Department of Internal Medicine, Sahlgrenska Hospital, S-413 45 Goteborg, Sweden.
SOURCE: Acta Endocrinologica, (1993) Vol. 129, No. 3, pp. 195-200. ISSN: 0001-5598 CODEN: ACENA7
COUNTRY: Norway
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 018 Cardiovascular Diseases and Cardiovascular Surgery
003 Endocrinology
037 Drug Literature Index
006 Internal Medicine
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 14 Nov 1993
Last Updated on STN: 14 Nov 1993

AB Patients with adult onset growth hormone deficiency have a decreased life expectancy owing to an increased mortality from cardiovascular disease. In the present study, 104 subjects (66 men and 38 women, aged 22-74 years) with growth hormone deficiency and with adequate replacement therapy with glucocorticoids, thyroid hormones and gonadal steroids were studied with respect to known risk factors for cardiovascular disease. For comparison, data from a population study, 'the MONICA study', were obtained. The patients had a significantly higher body mass index compared to controls (p < 0.001). Serum triglyceride concentration was higher (p < 0.001) but there was no difference in serum total cholesterol concentration. Serum high-densityf lipoprotein cholesterol concentration was lower (p < 0.001) in the patients. There was no difference in the prevalence of diabetes mellitus. The prevalence of treated hypertension was higher (p < 0.05) in the patients but the prevalence of smoking was lower (p < 0.001). Even after taking the increased bodymass index into consideration, the changes in the prevalence of treated hypertension (p < 0.05) and in the serum concentrations of triglycerides (p < 0.05) and high-density lipoprotein concentrations (p < 0.001) remained. These results indicate that growth hormone deficiency alters lipoprotein metabolism and increases the risk for development of hypertension, which in turn might contribute to the increased risk for cardiovascular disease.

L5 ANSWER 52 OF 52 EMBASE

ACCESSION NUMBER: 1993030275 EMBASE
TITLE: Increased body fat mass and decreased extracellular fluid volume in adults with growth hormone deficiency.
AUTHOR: Rosen, T., Dr. (correspondence); Bosaeus, I.; Tolli, J.;

Lindstedt, G.; Bengtsson, B.-A.
CORPORATE SOURCE: Endocrine Division, Department of Internal Medicine, Sahlgrenska Hospital, S-413 45 Goteborg, Sweden.
SOURCE: Clinical Endocrinology, (1993) Vol. 38, No. 1, pp. 63-71.
ISSN: 0300-0664 CODEN: CLENAO
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 003 Endocrinology
037 Drug Literature Index
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 21 Feb 1993
Last Updated on STN: 21 Feb 1993
AB Objective: Growth hormone deficiency in adults with hypopituitarism has previously received little attention. Recent data, however, suggest that GH-deficiency might be essential for the long-term prognosis of these patients. Earlier studies have documented that GH regulates body composition; in this, body composition in adult patients with hypopituitarism including GH deficiency was studied. Design: A follow-up study of patients with hypopituitarism on routine replacement therapy with L-thyroxine, cortisone acetate and sex steroids. Patients: One hundred and six patients (69 males, mean age 52.5 years and 37 females, mean age 53.4 years) diagnosed as having growth hormone deficiency on the basis of low IGF-I concentration or a maximum GH-response less than 5 mU/l after an insulin/glucagon tolerance test. Measurements: Body composition was estimated from body weight, total body water and total body potassium and the results were compared with values predicted from height, weight, age and sex, using data from a large number of healthy subjects. Results: The total body water was significantly lower than that predicted from the observed body weight ($P < 0.001$), as was the extracellular water ($P < 0.001$) and the extracellular/intracellular water quotient ($P < 0.001$). On average, the body cell mass was similar to the predicted value, but the observed/predicted body cell mass ratio correlated positively with age at follow-up. The body cell mass was lower than predicted in subjects below the age of 50 years ($P < 0.01$). The body fat was higher than predicted ($P < 0.001$); the increase was also noted in lean subjects. The observed body weight in male subjects was 7.5 kg higher ($P < 0.001$) than that predicted from healthy subjects of the samebody height, a difference explained by an average increase of 6.6 kg in the body fat ($P < 0.001$) and 1.6 kg in the body cell mass, with a simultaneous reduction of 0.7 kg in the extracellular water (NS). Male patients suffering from untreated androgen deficiency had lower body cell mass than those on androgen treatment. Female subjects weighed 3.6 kg (NS) more on average than healthy women, a difference explained by an increase in the body fat of 6.0 kg ($P < 0.001$) with a simultaneous decrease of 2.4 kg in the extracellular water ($P < 0.001$). The body cell mass was similar to that seen in the controls. Conclusions: Adult patients with growth hormone deficiency have an increased body weight compared to normals of the same age, sex and height, due to an increment of the body fat with a simultaneous reduction in the total body water.

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     (FILE 'HOME' ENTERED AT 11:52:33 ON 11 MAY 2010)

     FILE 'MEDLINE, BIOSIS, CAPLUS, EMBASE' ENTERED AT 11:52:50 ON 11 MAY 2010
L1          2215 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  BENGTSSON B?/AU
L2           718 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L1 AND GROWTH(W) HORMONE
L3             1 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L2 AND (MULTIPLE(W)
                 SYSTEM(W) ATROPHY)
L4            73 SEA FILE=MFE SPE=ON  ABB=ON  PLU=ON  L2 AND (INTRAMUSC? OR
                 SUBCUTANEOUS)
L5            52 DUP REM L4 (21 DUPLICATES REMOVED)
                 DIS IBIB ABS L3
                 DIS IBIB ABS L5 1-52

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